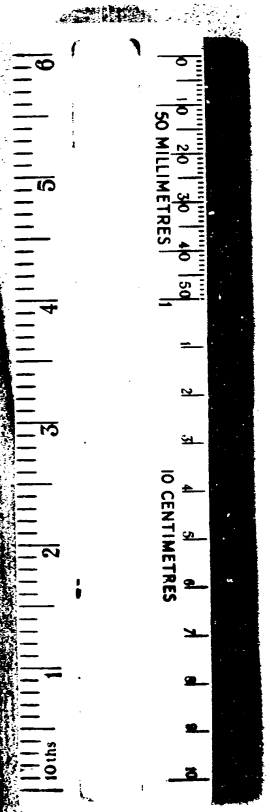
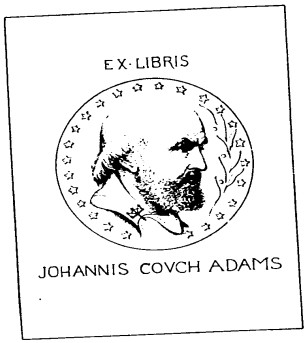
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COSMOGRAPHY AND GEOGRAPHY,

In Two Parts:

THE FIRST,

Containing the General and Absolute Part of COSMOGRAPHY and GEOGRAPHY;

BEING A

TRANSLATION

From that Eminent and much Esteemed Geographer,

VARENIUS.

Wherein are at large handled

All such Arts as are necessary to be Understood, for the True Knowledge thereof.

To which is added the much wanted SCHEMES, omitted by the Author.

THE SECOND PART,

Being a Geographical Description of all the *WORLD*,

Taken from the Notes and Works of the Famous

Monsieur SANSON,

Late GEOGRAPHER to the *French* King.

To which are added

About an Hundred Cosmographical, Geographical and Hydrographical TABLES of several Kingdoms and Isles in the World, with their Chief Cities, Sea-Ports, Bays, &c. drawn from the MAPS of the said *SANSON*.

The Third Impression, Illustrated with Maps.

To which is added the County-Maps *of* England, *drawn from those of* Speed.

LONDON:

Printed by *Samuel Roycroft*, for *Richard Blome*, dwelling near *Clare-Market* in *New Weldstreet*, at the Green Pallisado-Pales, M DC XC III.

To the Worſhipful

JOHN JEFFREYS,

OF

LLYWELL

IN

BRECNOCKSHIRE,

AND

Of the City of *LONDON*, Eſquire.

SIR,

IT is not without Conſideration, that I have choſen You to be the Patron of this Great Work, which lies before You.

Here are the United Labours of VARENIUS *and* SANSON, *Two ſo well known* Authors

to the Learned and Ingenious World, that they need no other Encomium, *than to Name them.*

And it cannot be thought fit that they should thus together Address any one; but such as has a double Portion of those rare Accomplishments joyn'd with all the Advantages of a Good Education, *a Flourishing* Family, *and a Noble* Fortune; *always ready to Encourage all Useful* Undertakings, *which will not let Your* Memory *Dye, but transmit it with* Honour *unto Future Ages.*

Upon this Occasion too I have the Ambition, to appear the Admirer of Your Worth, *and to make a Publick Acknowledgment of those Many* Favours, *by which You have Eternally Obliged.*

SIR,

Your most Humble Servant,

RICHARD BLOME.

THE

Preface to the Reader.

Amongst all those Arts *or* Sciences *which Man ought to have a Knowledge of, the Description of the* Earth *and* Heavens, *which is termed COSMOGRAPHY and GEOGRAPHY (for the Utility and Dignity thence arising) ought not to have the least estimate; the Soul being naturally inclined to the exploration of COSMOGRAPHY and GEOGRAPHY, as a necessary inherent in it; which seems evident; in that Men of undoubted* Judgments, *out of a singular desire to propagate this Study, and sparing no Cost or Labour, have travelled over the greatest part of the* Universe. *Unto this we add, That seeing the Earth was created by God to be the habitation of Man, if by brevity of Life, and Humane imbecility, we cannot so well Travel with the Body, yet at least-wise we would visit, behold, and contemplate it in our* Minds; *for its beauty, admirable elegancy, and the Honour of the Creator. There are many other Forceable Arguments, by which it appears all Men are generally inclined to the knowledge thereof: As the Commodities of every Nation are peculiar to it self, so that (according to Divine Providence) one Nation cannot well subsist without the help of another, to which end they are transported by way of Exchange and Traffick into other Countries. But, to shew the use of it in all* Arts *and* Sciences; *there being none but receive some light and assistance from COSMOGRAPHY and GEOGRAPHY. To this the immortal* Stagyrite, *and Divine* Plato *flieth as a refuge, when a numberless multitude, and variety of Natures secrets in Lands disjoyned, and the profound Ocean sometimes nonpluseth or staggers their Capacities. The Moral* PHILOSOPHER *is a Non-essence, being unskilled herein; for how can he search into, or inform himself of the Genius, Natures, Inclinations, or Studies of Men, and what is most proper for every distinct* Nation *or* People (*being his adequate subject*) *without this* Chart *to steer by? The* PHYSITIAN *is necessitated to have a great insight in this Noble Study; both for observing the Drugs and Medicaments, transported from Foreign Parts, &c. judging their Natures and Effects from the several Climates, &c. but especially for the variety of Bodies, or Constitutions, which are habituated according to the Climate and Soil of the Country. Take this away from the* MARTIALIST, *his Stratagems fail, and his whole Knowledge is in a feeble condition. The* MERCHANT *and* NAVIGATOR

are compelled unto an insight herein, for the knowing the Scituation *and* Climate *of* Countries, *their* Circumferences; *the* Latitude *and* Longitude *of* Places, *the* Currents *of* Rivers; *what* Commodities *each* Region *aboundeth in, and what they are deficient of, and the* Manners, Customs, *and* Dispositions *of the Inhabitants. Without* COSMOGRAPHY *and* GEOGRAPHY *all* History *is a thing of little use, the affinity of them both being such, that they seem to center both in one. And, to come more home to the matter, the History of the* Scythians, Indians, Æthiopians, *and* Americans, *are only expressed unto us by* Geographers. *Farther,* Historiographers *make use of* Geographical Descriptions *for the better and more full illustration of their History: And lastly, in reference unto* POLICY, *or Management of State, no* Wars, Societies *or* Leagues, *can be well made with a* Foreign State *or* Kingdom, *except there be first a perfect knowledge of the* Nature, Disposition, Manners, Customs, Strength, &c. *of the* Nation *or* People *with which such a* Combination *or* League, &c. *is to be made and established.* Henry, *King of* Castile, *though much weakned by Sickness, yet neglected not to send frequent* Embassadors *into* Asia, *that he might have a continual information of the* Manners *and* Strength *of those* Provinces: *And the same was done by* Moses, *before his setting foot into* Palestine. *Now Nature, which exhibiteth and discovereth her elegancy and force in the production of variety of things, hath not only diversly distinguished the* Faces *and* Physiognomy, *but also the* Souls *and* Minds *of Men; The* Modes, Genius's, Customs *and* Natures *of Nations being vastly different; unto this very end she hath variously disposed the causes themselves.* GEOGRAPHERS *have divided the World into* Climates, *and every* Climate *is distinctly subject to the Dominion of some* Planet, *as the chief cause of this Diversity; where observe, that the first* Climate, *which extendeth through the* Meroe (*an Isle, made so by the River* Nilus) *is subject to* Saturn. *Those under the second* Climate, *is attributed to* Jupiter, *and passeth through* Siene, *a City in* Ægypt. *Those inhabiting under the third, is subject to* Mars, *and extendeth through* Alexandria. *Those under the fourth, is appropriated to the* Sun, *and stretcheth through* Rhodes, *and the middle of* Greece. *Those under the fifth, which passeth through* Rome, *and divideth* Italy *from* Savoy, *is attributed to* Venus. *Those under the sixth, where* Mercury *is predominate, passeth through* France. *And those under the seventh, which is subject to the* Moon, *passeth through* Germany, *the* Low Countries *and* England; *which said* Planets *have their* Operations *or* Influences *on the* Inhabitants *dwelling under each of the said* Climes. *So that although the glorious and eternal* Luminaries *of Heaven have an efficacious operation, yet notwithstanding the* Disposition *of the* Earth, *hath a far greater prevalency; seeing that through the various* Scituation *of* Hills *and* Vallies, *we experimentally find more great and different effects of the* Celestial Rays, *which are also contemporated by the* Rivers *and* Lakes. *This can be denied by no man, that Nature is admirable in her Works; sometimes as it were on set purpose deluding the curiosity of Humane wisdom, by receding from the ordinary* Laws *of* Causes. *Who can render a sufficient reason of that which is testified by* Mariners *concerning the* Region *of* Maliapur, *in which is seated* Calicut? *an exceeding high Mountains, topping the Clouds, dividing this Province throughout*

throughout, and ending in a Promontory, *which is now called* Comorium, *which although it hath the same Altitude of the* Pole, *yet when the Winter rageth, and the* Waters *swell on the one side, on the other side the* Fields *and* Towns *are scorched with excessive heat, and the Sea calm. Wherefore this diversity which is discovered in the* Climates, *the scituation of* Provinces; *Contemporation of the* Air *and* Elements, *do variously discriminate the Constitutions of* Men, *and those Constitutions, their Natures; for the manners of the Mind follow the temperament and disposition of the Body. The* Septentrional *or* Northern People *being remote from the* Sun, *and by consequence inhabiting in cold Countries, are* Sanguine, Robust, *full of* Valour *and* Animosity; *hence they have alwaies been Victorious and predominant over the* Meridional *or* Southern *Nations; as the ASSYRIANS over the CHALDEANS; the MEDES over the ASSYRIANS; the PARTHIANS over the GRECIANS; the TURKS over the ARABIANS; the GOTHS over the GERMANS; the ROMANS over the AFRICANS; and the ENGLISH over the FRENCH. They love Freedom and Liberty, as those also do which are* Mountaineers, *as the* Helvetians, Grisons, *and* Cantabrians. *The Nations proximate to the Sun, have their Blood wholly exsiccated by immoderate Heat; hence the Inhabitants of those Places are* melancholy, *and profound in the penetrating of the secrets of* Nature: *For all the* Northern *Nations receive the Mysteries of the* Sciences *from the ÆGYPTIANS and ARABIANS. The Provinces which are immediately between both* Torrid Zones *enjoy a a Benign Heaven; so that they Florish in* Religion, Justice *and* Prudence. *The Mutations of* Governments, *the Transmigration and Emission of* Colonies, Converse, Matrimony, War *and* Peace; *also the Motions of the* Celestial Spheres, *which drive from the* Poles, *and the* Zodiack *of the* Primum Mobile, *the Heavenly Images on these Inferiour Bodies, do change and alter the Habits, Manners, and also Nature it self. If we have recourse unto History, we shall find the GERMANS noted of old for lofty Minds, and the ITALIANS on the contrary too* abject *and* low, *which difference now cannot be discerned. Nations have* Swayed *and been* Predominate *by turns, and as long as the* Monarchy *hath had duration amongst them,* Vertue *hath florished,* Arts *and* Arms *have gone hand in hand, which afterwards with the Ruine of the* Empire *hath been smother'd in its Ashes, and received Vivification in another place; yet notwithstanding these Obstacles every* Nation *hath certain Propensions and fixed Affections appropriate to every one, which will adhere to Forrainers, if that they long remain amongst them.*

The Intelligent Reader, *who desireth a Knowledge in these and other Particulars, with a throughout Prospect of the Utility of COSMOGRAPHY and GEOGRAPHY, may consult the* Work *it self.*

RICHARD BLOME.

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THE

A Streight Line

A Superficies

A Solid body

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A Circular line

Semidiameter

Diameter

An Arch

An Elipsis

A Spiral Line

An Oval Line

Lib. 1. c. 2. 6.th

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Secant

Sines Right

Versed Sines

The Chord

The Radius 100

The Whole Circumference extended in a streight Line

Lib. 1. c. 2.

The Cathet

The Base

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A Half Dutch and also an old Roman half foot

A Half foot of Paris in French. And also a half Greek foot.

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An Indian Mile

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3.th way of Snelly Lib. 1. c. 4.

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L. 1. c. 4

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The Planetary Orbs according to theire distances

Lib. 1. c. 6.

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First Plate
Folio 2.



THE ABSOLUTE OR COMPLEAT PART OF General Geography.

BOOK I. SECT. I.

CHAP. I.

Concerning the Precognita's, *or things known before the handling of the* Art *it self*; *as the* Definition, Division, Object, Properties, Principles, Order, Method, Original, Excellency, *and other affections of* GEOGRAPHY; *to be spoken of by way of Preface.*

THE Custom or fashion hath for a long time prevailed, that they who compleatly treat of, and handle any *Art* or *Science*, do in the first place declare some things touching the *Conditions*, *Method*, *Constitution*, and other properties of their Doctrine. Neither do I think that this is done by them without reason; so that it be performed without any *Sophistical encroachment*; seeing that by such like fore-had Instruction, the Readers Understanding may before-hand conceive a certain *Idea* or *Platform* of the whole *Art* or *Science* to be afterwards handled, or at least may understand the *Argument* or *Contents* thereof; and withal may gather thereby, how he ought to order himself in the studying the same. I therefore shall in this Chapter deliver some few passages concerning the same. *A Preface to an Art, very necessary.*

The Definition of Geography.

GEOGRAPHY is called a mixt *Mathematical Science*, which teacheth the affections or qualities of the *Earth*, and the parts thereof depending of quantity; that is to say, the *figure*, *place*, *magnitude*, and other like properties.

Geography by some (but too strictly) is taken for the only description and placing the Countrys of the Earth; And on the contrary, by others it is extended (but too largely) to the political description of every Country. But these Men are easily excused, seeing they do it to retain and stir up the Readers affections; who otherwise by a bare account, and naked description of those Countrys, would be made drowsie and heedless.

The Division of Geography.

We will divide *Geography* into General and Special, or Universal and Particular. *General* or *Universal Geography* is that, which doth generally consider the *Earth*, and declare its properties without any respect of particular Countrys. *Special* or *Particular Geography* is that, which teacheth the constitution and placing of all single Countrys, or every Country by it self. And this *particular Geography* is twofold, to wit *Chorography* and *Topography*. *Chorography* proposeth the description of any Country, having at least a mean magnitude. *Topography* describeth any little tract of Land, or place.

Particular Geography twofold, *Chorographical* and *Topographical*.

In this Book we will present you with a *General Geography*; which we have distributed into Three parts, to wit, the Absolute part, the Respective part, and the Comparative part. In the *Absolute part* we will consider the very Body of the Earth, with its parts, and proper affections and qualities; as *figure*, *magnitude*, *motion*, *Lands*, *Seas*, *Rivers*, &c. In the *Respective part* we will contemplate those properties and accidents which from *Celestial causes* happen to the Earth: And lastly, the *Comparative part* shall contain an explication of those properties, which arise from the comparing of divers places of the Earth.

General Geography, and its parts.

The Object of Geography.

The *Object* of *Geography*, or *Subject* about which it is employed, is the *Earth*; but principally its *Superficies* and *parts*.

The Properties of Geography.

Those things which deserve to be considered in every Country, seem to be of a triple kind, to wit *Celestial*, *Terrestrial*, and *Human*; and therefore may be declared in the particular Geography for every *Country*, with the profit of Learners and Readers.

The Celestial properties of Geography.

I call those *Celestial properties* which depend on the apparent motion of the *Sun*, *Stars*, and other Planets: and seem to be Eight. 1. *The elevation of the Pole, the distance of the place from the Equator, and from the Pole.* 2. *The obliquity or wriness of the daily motion of the Stars above the Horizon of that place.* 3. *The Quantity of the longest and shortest day.* 4. *The Climate and Zone.* 5. *Heat and Cold, and the Seasons of the year: also Rain, Snow, Winds, and other Meteors*: for although these things may be referred to Terrestrial properties, yet because they have a great affinity with the four Seasons of the Year, and motions of the Sun; therefore we have marshalled them in the order and rank of Celestials. 6. *The rising of the Stars, their appearance and continuance above the Horizon.* 7. *The Stars passing through the Vertical point of the place.* 8. *The quantity or swiftness of the Motion, wherewith, according to Copernicus his Hypothesis, each one is every hour wheeled about.* According to Astrologers a Ninth property may be added; because they do appoint one of the Twelve Signs of the *Zodiack*, and the peculiar Planet of that *Sign*, to rule and govern every Country. But this Doctrine

Doctrine hath ever seemed to me frivolous, neither can I perceive any ground for it: nevertheless at the end of our Special or Particular *Geography*, we will reckon up this their distribution.

These may suffice for the Celestial affections or properties. I call those *Terrestrial properties*, which are considered in the place of every Country it self; of which I shall note Ten. 1. *The bounds and circumference of the Country.* 2. *Its Figure.* 3. *Its Magnitude.* 4. *Its Mountains.* 5. *Its Waters, as Rivers, Springs, Bays of the Sea.* 6. *The Woods and Deserts.* 7. *The Fruitfulness and Barrenness, as also the kinds of Fruits.* 8. *The Minerals, or things dig'd out of the Earth.* 9. *The living Creatures.* 10. *The Longitude of the Place*, which ought to be added to the first Terrestrial property, to wit the *Circumference*.

The Humane properties of Geography.

I make the third kind of Properties, which are to be considered in every Country, to be *Humane*, which do depend of the Men, or Natives and Inhabitants of the Countries: of which *Humane properties* about Ten also may be made. 1. *The stature of the Natives, as to their shape, colour, length of life, Original, Meat, Drink, &c.* 2. *Their Traffieks and Arts in which the Inhabitants are employed.* 3. *Their Vertues, Vices, Learning, Wit, &c.* 4. *Their Customs in Marriages, Christnings, Burials, &c.* 5. *Their Speech and Language.* 6. *Their State-Government.* 7. *Their Religion and Church-Government.* 8. *Their Cities, and most renowned Places.* 9. *Their memorable Histories.* And 10. *Their famous Men, Artifices, and Inventions of the Natives of all Countries.*

These are the three sorts of Properties to be declared in *Special Geography*; although those *Terrestrial properties*, which make up the third rank, are not so rightly referr'd to Geography: But we must yield somewhat to Custom and the Profit of Learners. We will besides these, joyn many Chapters to *Particular Geography*, concerning the practice of Geography.

But in *General Geography*, which we will unfold in this Book; first the *absolute* properties of the *Earth*, and its constitution, are considered. Lastly, in the *Comparative* part those things shall be proposed, which are offered unto us in the comparing one place with another.

The Principles of Geography.

The *Principles* which *Geography* useth for the confirming the truth of her Propositions, are threefold: 1. *Geometrical, Arithmetical*, and *Trigonometrical* Propositions. 2. *Astronomical* Precepts and Theorems; although it may seem like a miracle for the knowledge of the Earth in which we dwell, to use the Celestial Bodies, which are so many thousand miles remote from us. 3. *Experience*; for indeed the greatest part of *Geography*, especially that which is Particular, is upheld by the only Experience and Observation of men who have described every Country.

The Order of Geography.

Concerning the *Order* which I esteem fitting to observe in this Art of *Geography*, it hath been already spoken in the *Division* and *Explication* of the properties thereof; yet here meets us a certain difficulty concerning the Order to be observed in the explication of these Properties: Forsooth, whether to all Countries their own Properties are to be attributed, or whether the Countries themselves are to be ascribed to the Properties generally explicated? *Aristotle* in the first Book of the History of *Living Creatures*, as also in his first Book of the Parts of *Living Creatures*, moveth the like doubt, and disputes it at large; whether according to the single sorts of *Living Creatures*, their Properties are singly to be reckoned up; or else, whether these *Properties* are generally to be declared, and the *Living Creatures* in which they may be found are then to be subjoyned? The like difficulty occurs also in other parts of Philosophy. We in *General Geography* have generally unfolded some *Properties*, which in *Special Geography* we will apply to the application of single Countries.

The

The Method of Geography.

As touching the *method* and manner of proving the truth of *Geographical* Tenents, very many are proved in *general Geography* by Demonstrations properly so called, especially *Celestial Properties*: but in *special Geography* (the Celestial Properties only excepted, which may be demonstrated) are in a manner declared without demonstration, because experience and observation doth confirm them, neither can they be proved by any other means.

Also very many *Propositions* are proved, or rather demonstrated by the *Terrestrial Artificial Globe*, and also by *Geographical Maps*; and some of these Propositions which are thus explained upon the Globe, &c. may be confirmed by lawful demonstrations. Again, some Propositions can in no wise be so proved, but are therefore received; because we suppose, that all places in the Globe and Maps are so disposed, even as they lie on the Earth. Yet in these things we will rather follow the Descriptions made by Authors of Geography. The *Globe* and *Maps* serve for the clearing and more easie comprehension thereof.

The Original of Geography.

The *Original* of *Geography* is not New, nor brought into the World at one birth, neither came she to us from one Man: but her Principles and Foundations were laid long ago, yea many Ages since; although ancient Geographers were employed only in describing Countries, which is the part of *Chorography*, and *Topography*. The *Romans* were accustomed, when any Country by them was subdued, to shew in their Triumph the *Chorography* thereof lively pencilled, and drawn on a Table, and flourished with Pictures to the Beholders. There were besides at *Rome* in *Lucullus*~~his~~ Porch, many Tables of Geography exposed to the view of all men. The Senate of *Rome* about an hundred years before Christs Birth, sent Surveyors and Geographers into divers parts of the World, that they might measure out the Earth; but they came far short thereof. *Neco* King of the *Egyptians*, many Ages before the Birth of Christ, commanded that the whole outer-side of *Africa* should be discovered by the *Phœnicians* in three years space. King *Darius* commanded, that the Mouths of the River *Indus*, and the *Ethiopian* Eastern-Sea should be searched out. *Alexander* the Great in his Voyage to *Asia*, took with him *Diognetus* and *Beton* (as *Pliny* noteth) two Surveyors and Describers of his Journies; out of whose Annotations and Journals *Geographers* of succeeding Ages took many things.

Ancient Geography very imperfect.

But the *Geography* of the Ancients was very lame and imperfect; for first they knew not *America* in the least. 2. The *Northern-Lands*. 3. The *Southland* and *Magellan* were utterly unknown to them. 4. They knew not whether the *Earth* might be sailed about, or the Main Ocean with a continual trace did encompass it; but yet I deny not, but that some of the Ancients were of that opinion; yet I utterly deny they knew it certainly. 5. They knew not whether the *Torrid Zone* were habitable. 6. They were ignorant of the true *dimensions* of the *Earth*, although they wrote many things in this business.

The Excellency of Geography.

First, the study of *Geography* is commended to us by the great worthiness thereof, because it most of all becometh Man, being an Inhabitant of the Earth, and endued with Reason above all Living Creatures. Secondly, It is also a pleasant thing, and indeed an honest recreation to contemplate the Kingdoms and Properties of the Earth. Thirdly, The commodity and necessity of it is notable, insomuch as neither Divines, Physitians, Lawyers, Historians, nor other Professors can want the knowledge thereof. But the Excellency of *Geography* hath been sufficiently handled.

I place

I place hereunder a Table, which openeth the order in *Special Geography*, to the observing the Explication of single Countries.

- *Special Geography* considereth in every Region,
  - Ten *Terrestrial*,
    1. Limits and circumscription.
    2. Longitude of place, and scituation.
    3. Figure.
    4. Magnitude.
    5. Mountains, { The Appellation, Scituation, and Altitude. / Their properties, and things contained in them.
    6. Mines.
    7. Woods and Deserts.
    8. Waters, { The Sea, Lakes, Marshes, Rivers. / Their Springs, Inlets, Tracts, and Latitude. / The quantity of Water, the celerity, the quantity, the Cataracts.
    9. Fertility, Sterility, and Fruits.
    10. The Animals.
  - Eight *Celestial*,
    1. The distance of place from the Æquator and Pole.
    2. The obliquity of Motion above the Horizon.
    3. The Quantity of Dayes.
    4. The Clime and Zone.
    5. The Heat, the Seasons of the Year, the Winds, Rain, and other Meteors.
    6. The rising and stay of the Stars above the Horizon.
    7. The Stars passing through the Vertex of the place.
    8. The celerity or quantity of their Motion according to the Hypothesis of *Copernicus*.
  - Ten *Human Things*,
    1. The Stature, Life, Meat and Drink, and the Original of the Inhabitants.
    2. The Income, Arts, Merchandize or Traffick.
    3. Vertues and Vices, the Genius and Erudition.
    4. Customs about Marriages, Children, and Funerals.
    5. Speech and Language.
    6. Politick Government.
    7. Religion, and Ecclesiastical Affairs.
    8. Cities.
    9. Memorable Histories.
    10. Famous Men and Women, Artificers, and Inventions.

CHAP. II.

Certain things taken out of Geometry *and* Trigonometry, *which it behoveth the Students of* Geography *to know.*

Geometry and Arithmetick necessary to be understood in Geography.

PLato wisely called *Geometry* and *Arithmetick* two Wings with which mens minds might soar up into Heaven, that is, might search out the *Motions* and *Properties* of the *Sun* and *Stars*. Those *Sciences* are no less necessary in *Geography*, as that man may truly understand, who desires to learn it without any hindrance. In the mean while, *Geography* is content with fewer circumstances then *Astronomy*. And because many men are taken up with the study of *Geography*, who have no knowledge in those Arts, I shall set down such things as are most necessary for the study thereof: not allowing of that naughty custom which is too much used by many Masters in these days, in teaching Youth *Philosophy* before they have tasted of *Geometry* and *Arithmetick*. I shall suppose the Reader to have the knowledge of *Addition*, *Subtraction*, *Multiplication*, *Division*, and of the *Rule of Three*, or *Golden Rule*; therefore I shall not treat thereof: and if there be any ignorant in them, they may be instructed therein by the lively voice of a Master; my purpose being to give *Geometrical Matters*.

See Scheme. Three sorts of Magnitudes in Geometry.

First then, *Geometry* acknowledgeth three sorts of Magnitudes, by which it measureth forth all things, to wit, *Lines*, *Superficies*, that is, *Outsides* or *Surfaces*, and *Solid Bodies*: neither is there any fourth thing given in Nature.

Sorts of Lines.

Secondly, A *Line* is one strait, another crooked, and the crooked *Line* is uniform, or circular, or different and unlike in fashion; as *Oval Lines*, *Lines* winding about like *periwinckles* or *steeple stairs*, or *Heliacan Lines*.

A Circle.

Thirdly, A *Circle* is called a space, or plain *Superficies* and *Figure*, included in a *crooked Line*; in which space is some *point*, from which all *strait Lines* drawn to that ending crooked Line, are equal. And that *crooked Line* bounding in that space, is called the *Circular Line*, or *Peripherie* of the *Circle*. The middle point is called the *center* of the *Circle*.

Diameter of a Circle.

Fourthly, The *Diameter* of the *Circle* is the *strait Line* drawn from either side through the *center* of the *circumference*.

An Arch. A Quadrant. The Complement.

Fifthly, An *Arch* is called a part of the *circumference* of a *circle*. A *Quadrant* is called the fourth part of the whole *circumference*. The *complement* of any *Arch* is called the *Arch* by which it differeth from, or faileth of a *Quadrant*. The *Excess* of an *Arch* is by which it exceeds a *Quadrant*.

The Probleme.

How to draw a Perpendicular Line. See Scheme.

Sixthly, *A strait Line being given, and a point in it, or out of it, to draw from that point a perpendicular Line.* Let the *Line* given be A B, the *Point* C; let any open space of the *Compasses* be taken, and one foot thereof put in C, and with the other foot let the *Line* be cut in D and F; then in the *Center* D, let the *Arch* be described over the part d f: also in the *Center* f, let another *Arch* be described in g and h, and let g h be drawn, and this shall be a *Perpendicular Line*.

How to divide a Circle into four parts. See Scheme.

Seventhly, *To cut or divide a circle and circumference into four parts.* Let there be drawn one *Diameter*, and from the *center* let there be raised a *perpendicular line* over it: And this also shall be a *Diameter*, and the *circumference* together with the *circle*, shall be cut into four equal *parts* or *quadrants*.

To divide a Circle into Degrees.

Eighthly, *To divide the circumference of a circle into degrees.* But a *degree* is the three hundred and sixtieth part of a *circumference*: for indeed *Mathematicians* do cut a *circumference* into three hundred and sixty parts; and they

they divide a *degree* into sixty first *minutes*: and then again they divide the *prime*, or first *minute*, into sixty *seconds*. See Scheme.

Therefore to dispatch this *Probleme* above proposed, there being first taken a *quadrant* of the *circle*, let then, by the open space of a pair of *Compasses*, the half *diameter* of the *circle* be taken; and by this space of the *Compasses*, let the *Arch* be taken away from the *circumference*. This *Arch* shall be sixty *degrees*, and there shall remain in the *quadrant* thirty *degrees*, which being divided into two parts, you shall have fifteen *degrees*, which again being mechanically divided into three parts, you shall have five *degrees*; and these again are to be divided into five parts, which shall be the *degrees* themselves. But these things by the help of *Mathematical Instruments*, are more readily and perfectly performed. To divide a Circumference into Degrees.

To find the Area of a Quadrangle.

Ninthly, *To find out the Area or contained space of a Quadrangle strait-angled, two sides of a Quadrangle being given.* Let one side be multiplied into the other, the *product* shall shew the space contained. But it is to be known, that *Lines* are measured by *Lines*, *Superficies* or *Spaces* are measured by *Measures*, which may be *Superficies*, and they indeed square. Lastly, Bodies of solid things are met by Measures, which may be Bodies and Solid Cubicks. Thus we measure the sides of an House with Feet-lines, but we meet the floor or pavement of an House with Square feet; and we describe the capacity or solidity of a House by Cubick feet. See Scheme.

The Diameter of a Circle being given, to find the Circumference of the Circle, in the same Measure.

Tenthly, *The half Diameter, or Diameter of a Circle being given, to find out in the same Measure the circumference of the Circle*: and contrariwise, *The circumference of the Circle being given, to find the Diameter thereof, and that indeed the neerest way that can be.* The solution of the *Probleme* depends of the proportion of the *diameter* to the *circumference*, which according to the most famous demonstration of *Archimedes*, is in a manner as 7 to 22; or more accurately, as 10000000000 to 31415926535; so 1 to the same *circumference*.

See Scheme.

Contrariwise, if a *circumference* be given, but a *diameter* may be demanded; let it be wrought as 22 to 7, or as 31415926535 to 10000000000: so a *circumference* given according to the *diameter* demanded.

The Circumference of a Diameter being given in feet or miles, to find out the space of the Circle in feet or square miles.

Eleventhly, *The circumference of a Circle being given in feet, or miles and a Diameter: or also a circumference alone, or a Diameter alone being given, to find out the space of the Circle, in feet or square miles.* According to the first Proposition, let the given *circumference* into the fourth part of the *diameter*; or let half the *circumference* be multiplied into half the *diameter*; and the *product* shall be the space demanded. According to the second Proposition, it is better to find out first the half *diameter*, or half *circumference*, by the foregoing *Probleme*, although it may be dispatched without it.

The Globe called a round solid body.

Twelfthly, *The half Diameter, or Diameter of any Globe being given, to find the Superficies thereof in square measure, and its solidity in Cubick measure.* The *Globe* is called a round or solid Body, in whose middle there is some *point*, out of which all the *strait Lines* drawn to the *Superficies* are equal. And this *point* in the middle is called the *center* of the *Globe*. The *Line* through the *center*, is called the *diameter*: and it is called the *axis*, if the *Globe* be turned, or rolled about that *diameter*. Moreover, if the *Globe* be cut any way, howsoever the Section is the *circle*. And if it be cut through the *center*, or we imagine it to be drawn through the Plain, the Section shall be the *circle*, whose *diameter* is the same, as the *diameter* of the *Globe* it self. And such *circles* are called the greater *circles* of the *Sphere* or *Globe*: the rest are called the lesser *circles* of the *Sphere*.

Therefore for the resolution of the *Probleme*, first let the *circumference* of the *circle* be found out by the given *diameter*. Then let the *diameter* be multiplied into this *circumference*, and then the *superficies* of the *Globe* shall be the *product* in square Measure.

See Scheme.

Furthermore, let this *superficies* be multiplied by the sixth part of the *Diameter*, and the *product* shall be the solidity of the *Globe* in *Cubick Measure*.

A Triangle.

Thirteenthly, *A Triangle is called rectangled, one side of which standeth perpendicularly upon the other side*; or with it maketh a ſtrait Angle of ninety *degrees*. Theſe two ſides are called *Cathetis*; the third ſide is called *Hypotenuſa*.

The meaſure of the Angles in the Arch.

The *Meaſure* of the *Angles* is the *Arch*, which is deſcribed, a *center* being taken in the top of that *Angle*; to wit, of how many *degrees* that *Arch* intercepted between the ſhanks of the *Angle* is, of ſo many *degrees* that *Angle* is ſaid to be. So a ſtrait *Angle* is ſaid to be ninety *degrees*, becauſe the *Arch* ſo deſcribed is always the *Quadrant*, or fourth part of the *circumference* of the *circle*.

The Sine of an Arch.

The *Sine* of any *Arch* is called a *ſtrait Line*, which is drawn perpendicular from the extream of the *Arch* into the *diameter*, drawn through the other extream of the *Arch*.

A Tangent of the Arch.

A *Tangent* of that *Arch* is ſaid to be a *ſtrait Line* touching the *Arch* in one end, and a *ſtrait ended Line*, which is drawn from the *center* through the other end of the *Arch*. But this *Line* thus drawn is ſaid to be the *ſecant* of that *Arch*.

But the *Sine* of an *Angle* is ſaid to be the *Sine* of that *Arch* which meaſureth that *Angle*: ſo the *Tangent* of the *Angle*, and its *Secant*.

Furthermore it is to be known, that by the labour and ſtudy of *Mathematicians*, *Tables* were made, in which the half *diameter* of 100000 (or of more Cyphers) being taken, the *Sines*, and *Tangents*, and *Secants* of all the *Arches* of the *circumference* are found out. For example ſake, 2 *degrees*, 10 *degrees*, 20 *degrees*, 32 *minutes*, &c. And theſe *Tables* are called the *Mathematical Canon* or *Rule*, and have infinite Commodities in all the *Mathematical* and *Natural Sciences*. And therefore I am willing to teach the Studious of *Geography* theſe few things: But the principal uſe thereof is in the meaſuring, as well of *Spherical* as *plain Angles*. But becauſe the meaſuring of *Spherick Angles* hath ſome difficulty, which ſeemeth neceſſary only for them who deſire to enter themſelves more profoundly into *Art*: therefore we will ſpeak only of *Triangles* ſtrait angled, whoſe dimenſion any one may eaſily apprehend.

Tables called the Mathematical Canon or Rule.

Two Theorems, whoſe uſe is frequent in Geography.

Rules to be obſerved.

Fourteenthly, *Three Angles of what Triangle ſoever, being taken together, are equal to two ſtrait Angles*, or are 180 degrees: and therefore two Acute in a *Triangle* ſtrait angled, makes 90 *degrees*. Furthermore, *if a ſtrait Line touch a circular Line, and from the point of their contact or meeting, a ſtrait Line be drawn to the center of the Circle, this makes a ſtrait Angle with the Line Tangent.*

Fifteenthly, But theſe are the *Problems* whoſe uſe is frequent. First, the *Hypotenuſa, and together the Cathetus of a Triangle ſtrait angled, being given, to find out the Angle contained, or another Acute.* For the finding out of which, let it be wrought according to the *Golden Rule*, as the given *Hypotenuſa* is to be the given *Cathetus*, ſo the whole *Sine* 100000 (which number is the half *Diameter* taken in the *Tables* of *Sines*) is to the *Sine* of the other *Angle*. This *Sine* ſought out in the *Canon*, will ſhew the *Arch* or quantity of the *Angle*, which joyneth to the *Hypotenuſa*. But the contained *Angle* is the *complement* of the found out *Angle*, to 90 *degrees*. Therefore, if the found out number be ſubtracted from 90 *degrees*, the demanded *Angle* is left remaining. Secondly, *A Cathetus, and an acute adjacent Angle being given, to find out the Hypotenuſa.* Let this be wrought according to the *Golden Rule*: as the *Sine* of the *complement* of the given *Angle* is to 100000 (or to 1000000 in the greater *Canon*), ſo is the given *Cathetus* to the demanded *Hypotenuſa*. Thirdly, *Two Cathetuſes being given, to find the Angle adjacent to either of them.* Work thus; as one *Cathetus* is to another, ſo is the whole *Sine* 100000 to the *Tangent* of the *Angle* which is adjacent to the firſt aſſumed *Cathetus*. Fourthly, *A Hypotenuſa, and one acute Angle being given, to find either Cathetus.* Let the Work proceed thus; as the whole *Sine* 100000 is to the *Sine* of an *Angle*, which is oppoſite to the *Cathetus* demanded, ſo the given *Hypotenuſa* is to that *Cathetus*.

Con-

Concerning divers Meaſures.

Meaſures uſeful in Geography.

Becauſe the uſe of *Meaſures* is very frequent in *Geography*, and that alſo divers People uſe ſundry Meaſures, therefore I ſhall give the Reader ſome Advertiſements therein.

The *Foot* the moſt famous Meaſure, firſt found out by *Snellius*.

The famous Meaſure is *the length of a Foot*; but this is very different. The *Rhindlandiſh* Foot of *Snellius* is the now uſual Mathematicians *Foot*, which is equal to the Old *Roman* Foot. And becauſe *Snellius* was moſt diligent, and curioſeſt in meaſuring the Earth, therefore that *Rhindlandiſh Foot* is deſervedly taken for the rule of all Meaſures.

A Rod, or Perch.

The *Decempeda*, or *Land meaſuring Rod*, containeth ten foot *Rhinlandiſh*. It is alſo called a *Perch*, or *Pole*; but *Geodeſians* or *Surveyors* make a *Rhindlandiſh Perch* to be twelve *Rhindlandiſh foot*, or elſe ſixteen foot *Germiſh*, or ſixteen foot and an half *Engliſh*. The aforeſaid *Snellius* makes a *Hollandiſh* Mile to conſiſt of 1500 *Rhindlandiſh* Perches (every Perch being twelve foot long) or to conſiſt of 18000 *Rhindlandiſh* Feet.

Meaſures which ariſe from the diviſion of a Foot.

And theſe two Meaſures, to wit, the *Perch* and *Mile*, ariſe from the multiplication and aggregation of Feet: But the Meaſures that ariſe from the diviſion of a Foot, are a *digit* or *finger*, a *palm* or *hands breadth*, and a *grain*. A *digit* is the twelfth part of a foot; a *palm* contains four digits, and a *grain* is the fourth part of a digit: but theſe are ſeldom uſed. It is better to divide a foot into ten digits, and then a digit into ten grains.

And theſe Meaſures are ſufficient for the uſe of *Geography*: But there are other Meaſures hereunto to be added (which I have noted in the Scheams) to wit, thoſe of the Ancients, as *Egyptians*, *Greeks*, *Romans*, *Perſians*, &c. alſo thoſe of later times, as of the *Turks*, *Polanders*, *Germans*, *Moſcovians*, *Italians*, *Spaniards*, *French*, *Engliſh*, &c.

The *Grecian Stadium* or Furlong is judged to be 600 *Greek* feet, which makes 625 *Roman* or *Rhindlandiſh* feet.

A *German* Mile, of which Geographers allow fifteen to one *degree*, contains 14000, $\frac{4}{5}$ feet. It is eſteemed to be 4000 paces; that is, 32 *ſtadia's* or furlongs. Its proportion to the *Rhindlandiſh* Mile is as 15 to 19.

The *Italian* or *Roman* Mile is a thouſand *paces*, or eight *ſtadiums*.

A *Geometrical pace* contains five *foot*.

A *Fathom* is ſix foot; which is reported by ſome to have been the *Grecian* Pace.

A *Cubit* is a foot and a half.

Paraſange, that is, the *Perſian* Mile, is eſteemed to have contained 30 *ſtadiums*; but it contained 3000 *Perſian* Paces.

Schænus the *Egyptian* Meaſure containeth, according to *Herodotus*, ſixty *ſtadiums*, and according to *Pliny*, forty; but peradventure the ſize thereof was divers, according to the different places wherein it was uſed: Alſo, either *Herodotus's ſtadium* differed from *Plinys*, or elſe their Books are faulty.

The *French League* holds proportion to the *Rhindlandiſh* Mile, as 25 to 19, or elſe as 60 to 19.

The *Spaniſh League* holds proportion to the *Rhindlandiſh* Mile, as 17½ to 19. But becauſe in divers places both of *France* and *Spain*, a different greatneſs of a League is obſerved; therefore theſe things are not altogether certain.

The *Engliſh* Mile holds proportion to the *Rhindlandiſh* Mile, as 55 to 19, or elſe as 16 to 19. But the *Engliſh* have three ſorts of Miles, to wit, the greater, of which 27½ are equal to a *degree*: the mean, of which 50 makes a degree; and the leaſt of which 60 or 55 miles makes a degree.

55 19 16 60 9

The *Daniſh* or *Swediſh* Miles, holds proportion to the *Rhindlandiſh* mile as 10 to 19: But in ſome places the *Danes* and *Swedes* uſe the *German* mile.

The *Ruſſian* Mile holds proportion with the *Rhindlandiſh* mile, as 80 to 19.

The

The *Turkiſh* Mile or League is thought to be equal with the *Italian* Mile, ſo much that 60 of them make a *degree*.

The *Arabian* League formerly was the twentieth part of a *degree*, ſo that twenty five *Arabian* Leagues did equalize one *degree*, or nineteen *Hollandiſh* Miles: But yet the *Arabians* did alſo uſe another Meaſure, fifty five of which ſaid to be a degree.

An hundred *Indian* Miles are judged to be equal to a *degree*; although the *Indians* commonly deſcribe their diſtances by the Journeys of Days and Hours.

The Inhabitants of the Kingdom of *Cambaia* and *Guzuratta* uſe a certain Meaſure, which they call *Coſa*, thirty of which makes a *degree*.

Thoſe of the Country *Sinæ* or *China* obſerve three Journey-Meaſures, which they call *Li*, *Pu*, and *Uchan*. *Li* is the ſpace from whence the voice of a man crying aloud may be heard in a Plain, and in a calm Air, which is thought to be three hundred *Geometrical* Paces. *Pu* containes *Li* ten times; ſo that twenty *Pu*'s makes a *degree*, and ten *Pu*'s make an *Uchan*, which they determine one days Journey, which is 30000 Paces.

The Square *Rhinlandiſh* Mile conſiſts of *ſquare feet*.

The Cubick *Rhindlandiſh* Mile conſiſts of *Cubick feet*.

But the account of a ſquare *Rhinlandiſh* Mile ariſeth from multiplying the ſame *mile* into it ſelf, and the *Cubick mile* is compleat, if the *Square mile* be multiplied by a *ſimple mile*. The ſame is to be underſtood as touching *ſquare* and *Cubick feet*.

OF

OF

Abſolute Geography.

SECT. II.

Containing the General and Abſolute properties of the Whole Earth, in Five Chapters.

CHAP. III.

Concerning the Figure of the Earth.

FIGURE is firſt the principal of all *Properties* of the *Earth*; not only in nobleneſs, but alſo excelling the reſt in the profit and neceſſity thereof, foraſmuch as without it nothing can be fully and ſolidly demonſtrated or known in *Geography*; and all things therein following do in a manner depend and proceed from her alone. In the firſt place therefore it is manifeſt that our diſcourſe is to be begun at her. Things to be obſerved concerning the *figure* of the *Earth*.

But there have been divers opinions concerning the *figure* of the *Earth*, for indeed the Vulgar ſort, (that is, men endued with no knowledge in *Geography*,) do think that the *Earth* extendeth it ſelf in a vaſt and broad Plain, whoſe boundary is a Circular line, but that the Hills and Valleys meet and ſtop it. *Lactantius* and other Fathers were of this Opinion, who earneſtly defended and maintained the *Earth* to be extended downwards with infinite Roots, and in that manner to have its foundation; this they thought, being moved thereto by certain places of Holy Scripture, either miſinterpreted or wrong underſtood. This Opinion is attributed to the Ancient Philoſopher *Heraclitus*: although ſome men write that he attributed to the Earth the ſhape of a *Boat*, or made hollow in the bottom. Furthermore, of theſe of latter days; *Franciſ Patric*, no baſe Philoſopher, did ſtiffly maintain that the *Earth* is extended on a plain foot. *Peucer* writeth, that *Anaximander* judged the form of the *Earth* to be like a *Rowling-pin*; but that is not likely, ſeeing that he both eſſayed the dimenſion or meaſuring the *Earth*, and was skilful enough in *Aſtronomy*, according to the manner of that Age; foraſmuch as he at *Lacedemon* ſat up, and made *Heliotropes*, or *Sun-dials*, in which the top of the finger or ſtile *Lactantius* his Opinion of the *Earth*. See *Lactantius* in his 3d Book chap. 24. And *Auguſtine* in his 16 Book *de Civit. Dei*, chap. 9. The Opinions of *Francis Patric*, *Anaximander*, *Leucippus* and Others, concerning the Earth.

See *Aristotle* in his 2d Book *de Cœlo*, ch. 13.

ſtile of the *Dial* with its *ſhadow*, did mark out and ſhew the day of the *Equinoxes* and *Solſtices*. *Leucippus* is recorded to have thought the Earth to be ſhaped in the form of a *Drum*: and there are other men which dare aſcribe I know not what fond Opinions to the Ancient *Philoſophers*. But the true Opinion maintained by almoſt all Philoſophers that were *Mathematicians* was, that the Earth is round like a *Globe* or *Sphere*. But the Arguments, which Authors for the confirmation thereof do uſe, they propoſe ſo obſcurely and confuſedly, that they cannot compel or convince an obſtinate and pertinacious Defender of the contrary Opinion. We therefore, as much as may be, will moſt clearly ſet forth thoſe very Opinions, and examine them, that the Readers may have a diſtinct knowledge thereof.

Reaſons to prove the *Earth* round.

First, I reject the ſlighter Reaſons or Arguments, which are probable, or rather Sophiſtical. First, the *Spherick figure* is moſt capacious; therefore the *Earth* ought to have ſuch a kind of *figure*. Secondly, all the parts of the *Earth* tend to the ſame *Center*; therefore all thoſe parts make a *round figure*. Thirdly, when as in the Creation the *Water* as yet was confuſedly mixed with the Earth, without doubt the *Earth* was moiſt and ſoft; but the figure or ſhape of Liquid things is *round* or *ſpherical*: therefore ſuch alſo the *figure* of the *Earth* remained after the ſeparation of the moiſt from the dry.

These and the like Arguments being ſlighted, let us view and conſider the ſtronger and moſt ſolid. There is but one Argument of one and the firſt kind, which is taken *à priori*; but the other two kinds are taken *à poſteriori*: to wit, ſome Arguments are taken from the *Celeſtial appearances*; ſome again from them which we either obſerve in the *Earth* or in *Heaven*. As for the firſt Argument, concluding *à priori*, i. is taken from the nature of *Water*; and this demonſtration is wont to be taken either from *Ariſtotle*, or *Archimedes*. *Ariſtotle* in his ſecond Book *de Cœlo*, chap. 5. hath propoſed his Demonſtration in theſe very words: *It ſhall manifeſtly appear that the* ſuperficies *or* ſurface *of the* Water *is round; if we ſhall take the Suppoſition, That* Water *of its own nature makes its confluence always to a hollow place, and that that place is more concavous which is nearer the Center.* Therefore from the *Center* A let the *ſtrait lines* A B and A G be drawn, and from B unto G let the line B G be drawn, unto which from A let a *perpendicular line* A D be drawn into E. It is manifeſt therefore that the *line* A D is leſs than the *lines* A B and A G (by the 18*th* of the firſt Book of *Euclid's Elements Geometrical*;) therefore this place D is more concavous; wherefore the *Water* ſhall flow from B and G until the *lines* A B, A D, A G may be equal: But A E is equal to A B, A G; therefore it muſt needs be, that the very *water* ſhould be in theſe *lines* which are drawn in the *Center* (this part of the Demonſtration is clearly known: but A E, &c. makes nothing for the Demonſtration.) But that *line*, which toucheth them which are drawn from the *Center*, is the *circumference*; therefore the *ſuperficies* of the *Water*, which truly is B E G, is round.

The ſuperficies of the *Water* round.

See Scheme.

Things to be noted.

This is *Ariſtotles* Demonſtration, in which, beſides the confuſed and evil compoſure thereof, theſe things I obſerve. First, that it ſuppoſeth ſome *Center* of the whole *Univerſe*: Secondly, that it taketh the place more or leſs bending down in regard of that *Center*. For he which ſhall deny the ſhape or figure of the Earth to be *ſpherical*, would call theſe things into queſtion. Yet the firſt may be ſufficiently, concerning the *Center* of the Univerſe, proved or corrected: For we muſt ſay, that either the *Stars* are wheeled round about by a *Diurnal motion*, or that the *Earth* is turned round about its own *Center* (for this the apparent motion of the *Stars* forceth and cauſeth.) If the *Stars*, then that *point* about which they are turned, ſhall be the *Center* of the *Univerſe*; if the *Earth*, then the middle point of the *Earth*, or that about which it is turned, ſhall be taken in the Demonſtration for the *Central point* of *Ariſtotle*. But the chiefeſt difficulty lies in the ſecond Suppoſition, to wit, that the leſſer or greater declivity or bending downward, ought to be conſidered in reſpect of that *Center*: For he which would defend the *ſuperficies* of the *Water* to be plain and of another *figure*, he would deny this Suppoſition, and would ſay, that the declivity muſt be conſidered according to our ſenſes, to wit, in reſpect of our *Horizontal*

Horizontal plain, according to which the *Earth* with infinite ſpaces is extended into profundity; or elſe he would define the declivity in another manner. And thus this demonſtration concludeth nothing at all, unleſs it be granted, that the declivity of the places of the *Earth* muſt be taken in reſpect of that *Center*, about which the daily apparent motion of the *Celeſtial Bodies* is performed: which thing, although it may be true, and all other definitions of declivity, according to which the *Water* may be moved, may alſo be confuted; yet notwithſtanding it can ſcarce be admitted for a principle, ſeeing that it in a manner ſuppoſes the figure of the Earth to be *Spherical*.

Archimedes his demonſtrations by ſome preferred before thoſe of *Ariſtotles*.

Others therefore prefer *Archimedes* his Demonſtration before this of *Ariſtotle*, which is found in his firſt Book, concerning thoſe things that are carried in the *Water*. This indeed is more Artificial than that of *Ariſtotle*, yet it is oppreſt with the ſame difficulties, foraſmuch as it ſuppoſeth the *Spherical figure* of the *Earth*, and its *Center*, in reſpect of which it taketh the depreſſion of the *Water*. We will bring hither ſome Arguments framed from thoſe that are taken from *Celeſtial appearances*. First, let us conceive the *Meridian line* of our place, or of any point of B in the *Earth*, or a Section of the *Earth* made in plane, which through the *Poles* of the World M N, paſſeth through A B C D: this *line* is uſually called the *Latitude* of the *Earth*, and the *line* which is drawn perpendicular to this is named the *Longitude* of the *Earth*, or another *plain Parallel* to the *Celeſtial Equator*, making in the *Earth* the *line* E B F C. I ſay, as well the *line* A B C D, as the *line* E B F C in the Earth to be *circular*. But it is a *Geometrical Thorem*, If any *Superficies* according to one dimenſion be cut through any point, and the *ſection* be made in the *periphery* or *circumference* of the *Circle*; then according to the other dimenſion through the ſame point the ſection be made in *plain*, which is *perpendicular* to the former plain, and the ſection again be made in the *periphery* of the *Circle*, that *ſuperficies* is *ſpherical*:

See Scheme.

Therefore, becauſe we have taken the point B in the *ſuperficies* of the *Earth*, according to our own pleaſure, and have ſhewed the Section A B C D, and E B F C to be the *peripheries* of the *Circles*; therefore by the aforeſaid *Theorem*, we conclude, that the *ſuperficies* of the Earth is *ſpherical*, and that the *Earth* is a *ſpherical Body*.

The Earth a Spherical body.

Furthermore, that the Section of the *Earth*, according to the dimenſion of the *Latitude* from one *Pole* to another A B C D is circular, is proved by many *Celeſtial* appearances: First, if this *line* A B C D, any place whatſoever being taken in B, ſome man go forward towards either *Pole* M, or towards the *Star* near it, he obſerveth by his progreſſes made equally, that he approacheth equally to the *Pole*. But this could not be done, unleſs the line of his Journey B A C D were *circular*, and it is commodiouſly ſhewed by the *Artificial Terreſtrial Globe*. Secondly, becauſe A B C D is the *Meridian line*, into which when the *Sun* cometh it is midday to us, and to all People dwelling in this *line* A B C; experience witneſſeth, that the *Sun* in the *line* A B C doth perpendicularly hang over any place, to wit in the *Torrid zone*, for example P; and if we take equal ſpaces equal to B Q, Q P, we ſhall perceive that the diſtance of the *Sun* from the *vertex* or top of Q, is equal to the *exceſs* of the diſtance of the *Sun* from the *vertex* of B, above the diſtance from the *vertical point* of Q: which could by no means be accompliſhed, unleſs the *line* B P Q were circular. Thirdly, the ſame is the reaſon of all the *Stars*, which when they come into the *Meridian* A B C, their diſtances from the *vertexes* P Q B have the ſame reaſon, as the diſtances P Q, P B, Q P. So when our Mariners ſail towards the South, the *Stars*, which before were not conſpicuous, become higher and more manifeſt to the eye, according to the proportion of their *ſayling*. Fourthly, for if many *Stars* be taken, and the places of the Earth, through whoſe *Zenith* they paſs, in one *Meridian*, you ſhall perceive that the diſtances of theſe places have the ſame proportion among themſelves, as the diſtances of the points of the *Meridian* in which thoſe *Stars* keep their Noon, or full South point. Now, foraſmuch as belongeth to the *Longitude* of the Earth; for example E B F C, that is alſo circular, and that the Earth hath a *ſpherical tumor*

The Section of the Earth, according to the dimenſion of the Latitude from one Pole to another, is circular.

Of the rising and setting of the Stars.

or swelling according to this dimension, is proved by that, because the *Sun* and *Stars* do sooner by a great deal rise to those People which live from us towards the East, than to us; and do also sooner set to them, than to us: But to them that dwell from us Westwards, contrariwise they rise and set later than to us; and indeed according to that proportion of time, which the distances of the *Meridians* of those places have from our *Meridian*. So if two places be taken from ours, to wit, the distance of one *Meridian* towards the East 225 miles; the distance of the other 450: then we shall find, that in this place the *Sun* riseth two hours sooner than with us; but in the other place it riseth but one hour sooner than in ours. The Argument becomes more clear, if this *Theorem* be proposed of the *Suns* coming to the *Meridians* of divers places. For indeed look what is the account of the distance of places from ours, and the same will be observed the account of times which come in between the arrivings to those *Meridians* and ours, or between the *Arches* of the *Equator* intercepted between their *Meridians* and ours: which is made evident by the *Eclipses*; for these things are shewed by the *Artificial Globe*, if we ascribe a *Spherick form* to the Earth: but other shapes thereto applied are very absurd.

Of the rising of the Sun.

So now the *Spherical form* hath as well been demonstrated, as touching the *latitude*, as the *longitude* of the Earth.

Other Reasons to prove the Earth *Spherical.*

Yea, but the *Spherical form* thereof may also be proved by the only *Latitude* of the Earth, for indeed all *divisions* of the Earth which are made according to the *latitude* thereof in divers places, are the *Peripheries* of the places; but they pass through the same point of Heaven, to wit, the *Pole* of Conversion near adjacent to the *Polar Star*. From these two Reasons we may solidly infer and prove, that the *figure* of the Earth is *spherical*. For it is a *Geometrical Theorem*, which therefore ought to be demonstrated by *Geometricians* thus; if any *solid body* be cut in many *planes*, it matters not how passing through some one point, and all the *sections* or *divisions* be performed in the *superficies* of the *periphery* of the *Circle*, that body is *spherical*.

Other reasons.

Here cometh another Reason, taken from the shadow which the *Earth* on her averse part to the *Sun* disperseth to the *Moon*, whereby she suffereth an Eclipse: forasmuch as this shadow is *conical*, or like a *spire* of a Steeple, as is declared by the obscuration of the *Moon*.

But if we deal rigidly, the Arguments taken from the *spherical roundness* of the Earth, from the viewing and consideration of the *Earth*, are these following:

Again.

First, from the *sayling* round the Earth; because our men of *Europe* hoisting Sail eight times from *Europe* with a direct Journey to the West and South, even unto the *streights* of *Magellan*; afterwards to the West and North; they returned again from the East into *Europe*, and all those appearances happned to them which arise from the property of the *Globe*; which surely had not been done, if the Earth had not been round. And certainly, upon the supposition of that figure of the Earth all those *Circumnavigations* were grounded, which therefore had not taken such happy success, if the form had been otherwise.

Furthermore.

Secondly, when either by *Sea* or *Land* we take our departure from high Towers and Mountains, then the lower parts thereof are absconded from us, and by degrees more and more, till at last the very tops thereof are quite taken from our sight. In the same manner, when as for a long distance we come to a Tower or Mountain, first the top presenteth it self to our view, then the inferiour parts, till at last through our nearer distance the foot thereof is seen. And this increase of Apparition and Occultation is altogether made according to such a proportion, as the *spherical tumor* or swelling of the Earth is able to make; neither can it be explicated by any other *figure*. The Diagram will make the Proposition more clear.

Thirdly, because that the measuring the height of Mountains, or great Hills, which is grounded upon the *hypothesis* of the globous form of the Earth, is found by experience to agree with a real truth of the thing it self.

Further-

Further Reasons to prove the rotundity of the *Earth.*

Furthermore, that we may draw together the whole number of these Arguments taken *à posteriori* into one sum, (although they might be handled *Geometrically*, but that business would be of great labour and difficulty; for it must be demonstrated, that this or that different property being put, that the *line* is circular:) therefore a *round spherical figure* is to be assigned to the Earth. Because all the *appearances* as well *Celestial*, (as the divers elevation of the *Pole*, the divers altitude of the *Sun* of that day in divers Countries, the reason of the *Shadows*, the difference and increase of the Longest days towards the *Pole*, times of the rising and setting of the *Stars*, &c.) as *Terrestrial*, (as the direction of *Navigations*, the appearing and hiding of *Towers* and *Mountains*, the distances of *Places*, the *Ports*, *Coasts*, *Winds*, &c.) are most commodiously declared by that *round* or *spherical* form or *figure*: neither can another figure be devised which can perform that, as it is manifest by the consideration of divers *figures* and forms of *Bodies*. And our *artificial Terrestrial Globe* so justly represents all these things, as they are really found to be in the *Earth*; which certainly could not be done, if the *Earth* had any form or figure than that of our *artificial Globe*. And what other form soever you shall chuse, there will follow innumerable absurdities: For it is manifest, that it is not plain by the appearances hither alledged; and that it neither can be hollow is clear from this, that the *Sun* and *Stars* ought first then to appear to the *western People*, than to the *Eastern*, if it were of such a figure; as we see the *Sun* rising first to illuminate the *Valleys*, before it can give light to the averse parts of *Mountains*.

CHAP. IV.

Concerning the Dimension and Magnitude of the Earth.

The Opinions of divers Writers concerning the Dimension and Magnitude of the *Earth.*

THe Dimension or measuring of the *Earth* comprehends three principal Heads: First, the *Longitude* or length of the *Diameter*, or *half Diameter*, that is, of a line from the *Superficies* to the *Center*, as also of a *periphery* of the *Earth*, or the *Circumference*. Secondly, the *magnitude* of the *Superficies* of the whole *Earth*. Thirdly, the solidness or *corporeal Dimension* of the *Earth*. But these things are so contrived together, that one of them being known, the other two come to our knowledge by *Geometrical Instruments*, because the *Earth* is a certain *Sphere*; as it is shewed in the second Chapter. This property is the most noble and hard to know, and hath exercised the most excellent Wits for many Ages: insomuch that some Men have written whole Books concerning this matter. And therefore I have thought, that it would not prove ungrateful to the Students of *Geometry*, if I should fully relate here the History of this Dimension. *Diogenes Laertius* praiseth *Anaximander* the *Milesian*, the Scholar of *Thales*, that besides other *Astronomical Inventions*, he first of all others described the circuit or *perimeter* of both *Land* and *Sea*. But *Anaximander* lived about the year 550 before the Birth of *Christ*. The *Mathematicians* of succeeding Ages seem to have followed his Dimension, even until *Eratosthenes*, because Authors make mention of none other; and therefore I judge that to be the Magnitude assigned by *Anaximander*, which *Aristotle* hath noted in the end of his second Book *de Cœlo*, saying; The *Mathematicians* also, which endeavour to measure out the *Magnitude* of the World, report that the *Earth* is bounded in and girt with four hundred *Stadiums*. By this *perimeter*, it is no difficult matter to assign the *half diameter* of the *Earth* according to *Anaximander*. But because we can find nothing noted concerning *Anaximanders* Invention, besides that one place of *Diogenes*

Anaximander the *Milesian*, the Scholar of *Thales*.

Aristotle.

Eratosthenes. *Laertius*; his and *Eratosthenes* his diligence is obscured, who next after *Anaximander* undertook this business with great applause of all men: he lived about two hundred years before Christ; and as he was most conversant in the rest of the *Mathematicks* and *Dimensions*, so he is esteemed most accurately to have perfected *Geodæsia*, or *Surveying*; and this glory is principally ascribed to him.

The circuit of the Earth. But he discovered and delivered, that the *perimeter* or circuit of the *Earth* is two hundred fifty thousand *Stadiums* or Furlongs; but others two hundred fifty two thousand, which *Pliny* reports to make up three hundred fifteen thousand *Roman miles*, every one of which are thought to be a thousand Paces.

Eratosthenes. *Eratosthenes* had written three Books of *Geography*, which by reason of the injury of time are now not to be found. *Strabo.* *Strabo*, the famous *Geographer*, relateth the Contents and Arguments of each Book: and *Cleomedes* hath noted up his manner which *Eratosthenes* used for the discovery of the *Circuit* of the *Earth*; in which, what can be wanted, we will hereafter declare. For indeed *Eratosthenes* his measuring forth the Earth, was by many *Mathematicians*, especially *Hipparchus* (a hundred years after *Eratosthenes*) judged to swerve from the truth; although there is nothing written touching *Eratosthenes* his Dimension or measuring forth the *Earth*, but that he added twenty five thousand *stadiums* to the *perimeter*. But *Posidonius* being not only a most knowing *Astronomer* and Practitioner, but also in every part of *Philosophy* most expert, did next after *Eratosthenes* enter upon this Doctrine, a little before the birth of *Christ*, to wit, in the time of *Cicero* and *Pompey*. This man by his Dimensions found the *circumference* of the *Earth* to be two hundred forty thousand *stadiums*, as *Cleomedes* hath noted; but 180000 *stadiums*, as *Strabo* hath delivered: whereby ariseth a great doubt concerning the cause of this difference between *Cleomedes* and *Strabo* his allowance; seeing this of *Strabo* is the truer, although uttered in a few words: But *Cleomedes* his assignation of the same is far from truth, although he read and expounded *Posidonius* his *Geodesie* to many. Concerning his size or manner, we will speak hereafter.

Posidonius. *Cleomedes.* *Strabo.*

But the Dimension of *Eratosthenes* was used as yet of many, even to *Ptolomy*'s time, (the year 144 after *Christ*) who used a *Perimeter* of 180000 *stadiums*, and affirmed it to be more agreeable to truth, insomuch that this very Invention was by *Theon* ascribed to him. It is gathered that *Marinus* a famous *Geographer*, and by whose Writings *Ptolomy* was much aided, did attempt something in this business, as appeared by his *Geographical Writings* of the same *Ptolomy*.

Theon. *Marinus.*

After these times, when as the study and prosecution of the *Sciences* by little and little vanished away in *Greece*, nothing was done in this business, neither did the *Romans* undertake any thing herein.

But the *Arabians* and *Sarazens* having obtained the Empire, or glory of other Arts from the *Grecians* to themselves, so likewise they left not this part of the *Mathematicks* untouched. Forasmuch (as *Snellius* relates out of *Abelfedea* an *Arabian Geographer*, who flourished about the year of *Christ* 1300, and whose Writings were printed at *Rome*) about the 800 year of the *Christian* Account, *Maimon* King of the *Arabians*, or the *Calife* of *Babylon*, being studious in the *Mathematicks*, forasmuch as he commanded the great construction of *Ptolomy* to be turned out of *Greek* into the *Arabian* Language, which is called by the *Arabians* the *Almagest* of *Ptolomy*. This *Maimon*, I say, having assembled together certain skilful *Mathematicians*, commanded them that they should search after the *Perimeter* of the *Earth*. To perform which task, they chose the Fields of *Mesopotamia*, and they under the same *Meridian* proceeding from the North to South, until the Elevation of the *Pole* had decreased one *degree*, found after an even level, that the space or Journey was fifty six or fifty six and a half; from whence it is found that the *Perimeter* according to them, is twenty thousand and sixty, or twenty thousand three hundred and forty Miles.

Maimon King of *Arabia* studious in *Geography*, in whose days it flourished.

From

From that time even to our Age no man hath assayed this; but many *Arabians* have used this dimension of their own *Mathematicians*: But the *Latines*, when they began to handle *Astronomy*, used that of 18000 *Stadiums* (which *Ptolomy* had used) which makes 324000 *Italian miles*, or 5400 *German miles*; for 15 *German*, or 60 *Italian miles*, are allotted to one *degree*, when as there ought to have been assigned thereto 15 and ⅓, because about 38 *Stadiums* are given to one *German mile*; and so the *Perimeter* should be 5625 *German miles*. But about thirty years ago, *Snellius* a famous *Mathematician*, Professor of *Leyden*, observed that usual *Perimeter* of the Earth, or the magnitude of one *degree* defined in 15 *miles*, to depend on no certain demonstration, but to be uncertain; therefore with very great industry he set upon this dimension, and happily finished it, demonstrating the magnitude of one *degree* in the *Earth* to be 28500 *Perches* or *Poles* (every one of which contain 12 *Rhindlandish feet*, or 19 *Dutch miles*) and the whole *Perimeter* to be 8640 *miles*. But he defines a *mile* with 1500 *Poles*, or 18000 *Rhindlandish feet*. We will now speak concerning the manner of measuring the *Earth*.

The dimension of the Earth by the Latins.

Its dimension according to *Snellius*.

But indeed this Invention depends on the *Figure* of the *Earth*, which in the foregoing *Chapter* we have proved to be *Spherical*: For indeed we conceive the *Earth* to be cut by a Plain passing through the *Center*. This *Section* or *Division* maketh the greatest *Circle* of the *Earth*: For a *Sphere* being cut in any manner, the *Section* is made a *Circle*; but if it be cut through the *Center*, it shall be the greatest *Circle*, and therefore the *Periphery* of this *Circle* in the *Superficies* of the *Earth*, shall be the *Circumference*, *Circuit*, and *Perimeter* of the *Earth*. And this work of *measuring* beginneth from the magnitude of this *Periphery*; because therefore this *Periphery* or *Circumference*, as others are, is divided in the mind into three hundred and sixty *degrees*, (as hath been said in the second Chap.) but indeed we cannot perform the magnitude of the whole *Periphery*, and therefore the Problem is thither reduced, that we may find out the magnitude of one *degree*, or other part in the known measure. For example; the magnitude of half a *degree*, the necessity of which also meets in other *Problems*. And we take the *Periphery* of the *Earth* for the most part to be that of the *Meridian Circle*, because this is more easily, and with less occasion of errour, determined by our own place, and by the *North* or *Polar Star*, or other means, which we will declare in the Three and twentieth Chapter.

The Circumference of the Sphere divided into 360 degrees.

The first mean or way which the Arabians, *and other Mathematicians have used.*

Let the *Horizon* therefore of our *Terrestrial Meridian* (which lieth just under the *Celestial* a b c d, and is concentrical thereto) be H h, R s s; let the *Periphery* A B C D, R the *Center* of the *Earth*; our place B the *Vertex*, or supreamest point over our heads; the *Pole* of the *Earth* A lying under the *Celestial*; the *Elevation* of the *Pole* above the *Horizon* shall be A H a h: Let us now take another place in the same *Meridian* A B C D or G, lying under the same a b c d, the *Vertex* g, the *Horizon* f F R t T. Let here now the *Elevation* of the *Pole* be exactly observed in the place B, *viz.* a h or a H; also of the place G, to wit f a, or F A; and let F A be taken away from H A, and the remainder is H F, to which the *Arch* B G intercepted between the places, is equal. After that the interval or space between B G must be measured accurately in a certain *measure*. For example; how many *Perches* or *Poles* it may contain, or how many *miles*? For these shall be correspondent to the *Arch* B G. And by the *Golden Rule*, as B G is to A B G c d the 360 *degrees*; so the space or interval found out, or the *Perches* or *Miles* are to the *Perches* or *Miles* of the whole *Perimeter* A B G C D, or as the *Arch* B G is to one *degree*, so the *Perches* or *Miles* found are to the *Perches* or *Miles* which are due to one *degree*.

See Scheme.

Note, if your pleasure be not to measure the interval B G thus, but to follow the vulgar determination, then according to that way the quantity must be determined. As for example; that to 1 *degree* 15 such *miles* answer, as between B G may be 10, &c.

Example;

Elevation of the Pole at *London*.

Example; B *London*, where the *Elevation* of the *Pole* A H, a h, is 51 *degrees* 32 *minutes*. Let G be *Hartford* lying under the ſame *Meridian* with *London*, the *Elevation* of whoſe *Pole* a f, a f, is 51 *degrees* 54 *minutes*; therefore f h, or B G is 29 *minutes*. But the diſtance between *London* and *Hartford* is 20 *Engliſh miles*, or 13875 *Rhinlandiſh Perches* of 12 *foot*: therefore as 29 *minutes* are to 60 *minutes*, ſo $9\frac{1}{4}$ to 19 *Holland miles*: therefore 19 *Holland miles* make one *degree* in the *circumference* of the *Earth*. Or the interval B G is accounted to be $7\frac{1}{4}$ *German miles*, a *German mile* being reckoned to be 1900 *Rhinlandiſh Perches*: therefore let it be wrought thus; as 29 parts are to 60, ſo is $7\frac{1}{4}$ to 15 ſuch *German miles*. So at *Prague* the *Elevation* of the *Pole* is 50 *degrees* and 6 *minutes*: at *Lincium* it is 48 *degrees*, and 16 *minutes*: the difference of B G ſhall be one *degree* and 50 *minutes*; and it is thought to be diſtant 26 *German miles*; therefore the *Perimeter* was 5105 *miles*, and the whole Circuit of the *Earth* is 5400 *miles*.

The Elevation of the Pole at *Prague*.

The ſecond manner of Eratoſthenes.

Eratoſthenes's manner uſed about the dimenſion and magnitude of the Earth. See Scheme.

Let there again be two places of the *Earth* in the ſame *Meridian*; let B be the City *Alexandria* in *Egypt*, let G be *Syene*, another City of *Egypt*, under the *Tropick* of *Cancer*; let now the ſame places in one and the ſame day, in the full ſouthing of the *Sun*, when he comes into the *Meridian line* a b c d, the diſtance from the *Verticles* b g be obſerved by a *Quadrant*. Let at *Alexandria* in the day of the *Solſtice*, 21 of *June* g f, or G F be obſerved, $\frac{1}{10}$ of the *Periphery*, or 7 *degrees* 12 *minutes*: but in *Syene* let there be no diſtance, the *Sun* hangeth perpendicularly over their heads; therefore B G ſhall be the *Arch* intercepted between thoſe two places. And becauſe the diſtance put is 5000 *Stadiums*, therefore according to the *Golden Rule*, it ſhall be, as 7 *degrees*, 12 parts to one *degree*, (or as $\frac{1}{10}$ to $\frac{1}{360}$, or as 5 to 36) ſo 5000 to $694\frac{4}{9}$ *Stadiums*, which are requiſite for one *degree*; or as $\frac{1}{10}$ is to 50, or as 1 to 50, ſo 5000 to 250000 *Stadiums* of the whole *Periphery* A B C D according to this *meaſure*. Yet ſeeing there are divers ways to take the *Meridian Altitude* of the *Sun*, and the diſtance from the *Vertical point* g b, *Eratoſthenes* wrought it by a hollow *Spherical Scioterick* or *Sundial*, which they called *Scaphe*, where the *Style* B x ſheweth the *Vertex* o x z, but the *Radius* or beam of the *Sun* terminaitng the ſhadow of the *Style* or *Pin*, marks out B z how much the diſtance of the *Sun* o b from the *Vertex* 7 *degrees* 12 *firſts* at *Alexandria*. But in the City *Syene*, the *Style* G x makes no ſhadow that day; becauſe o the *Sun* hangeth perpendicularly over it, and therefore there is no diſtance of the *Sun* then, becauſe therefore the *Angle* B x z is equal to the *Angle* b x o, whoſe *meaſure* is B o, or B z: there B o is equal to B z 7 *degrees* 12 firſt *minutes*, or $\frac{1}{10}$ of the *Periphery*. The other things are performed as it hath been ſaid.

The third manner of Poſidonius.

Poſidonius's manner uſed about the magnitude, &c. of the Earth.

See Scheme.

Let two places B G be under the ſame *Meridian*. *Poſidonius* took B *Rhodes*, and G the City *Alexandria* in *Egypt*: let the *Altitude* of ſome *Star* in theſe two places, when it cometh into the *Meridian*, above the *Horizon*, and that in the ſame day, or in divers days, which matters not at all. *Poſidonius* took the ſhining Star *Canobus*, which is of the firſt magnitude in *Argonavi*; but this *Star* did not riſe above the *Horizon* of *Rhodes* h H S, but did only touch the *Horizon* in S; yet it was elevated above the *Horizon* of *Alexandria* F R t in the *Arch* t S $\frac{1}{48}$ part of the whole *Periphery*, or 7 *degrees* 30 *minutes*. Therefore the diſtance of the *Arch* T s, that is B G, ſhall be 7 *degrees* 30 *minutes* unto 1 *degree*, or as $\frac{1}{48}$ part unto $\frac{1}{360}$; that is, as 1 to 48, ſo 5000 to 240000 *Stadiums* of the whole *Perimeter* of the *Earth*, according to theſe *Hypotheſes* of *Poſidonius*.

The

The fourth manner or way of Snellius.

Snellius's way about the dimenſion and magnitude of the Earth.

Becauſe in the former ways we have taken two places B G lying under the ſame *Meridian*, and yet the places fit for this buſineſs may lye under divers *Meridians*, therefore we thought it requiſite that an example, and that of *Snellius*, ſhould be alſo concerning this caſe here propoſed.

Let therefore A B C D be the *Meridian* of *Alcmaria*; B *Alcmaria* it ſelf, the *Elevation* of the *Pole* h a 52 *degrees* $40\frac{1}{2}$ *minutes*; the diſtance from the *Pole* B A 37 *degrees*, 19 *minutes*, 30 *ſeconds*.

Let the other place be P *Bergenapſome*, the *Meridian* A P V V the diſtance from the *Pole*, that is the *Complement* of the *Elevation* (51 *degrees*, 29 *minutes*,) A P is 38 *degrees*, 31 *minutes*: therefore P G a *Perpendicular Line* being drawn to A B G, the difference of the diſtances from the *Pole* is B G, 71 *minutes*, 30 *ſeconds*, or 1 *degree*, 11 *minutes*, 30 *ſeconds*. See Scheme.

Moreover, *Snellius* by a laborious *Geodeſie* or *Earth-meeting*, found the diſtance of *Alcmaria* from *Bergen* B P, to be 34710 *Rhindlandiſh Perches*, and the *Angle* of *Poſition* P B G, to be 11 *degrees*, 26 *minutes*, 2 *ſeconds*. Therefore in the *Triangle* ſtrait angled P B G, the *Hypotenuſe* B P, and the *Angle* B P G is given; therefore by the *Problem* of the ſecond Chapter, B G is found 34018 (for which *Snellius* takes 33930; for he detracts 88 *Perches* from the Stations of the *Elevations* of the *Pole*.) But the *Arch* B G $71\frac{1}{2}$ *ſcruples* is the difference of the *Elevation* of the *Pole*, therefore as $71\frac{1}{2}$ *minutes* is to 1 *degree* or 60 *minutes*, ſo is 33930 (or 34018) to 28473 *Perches* for one *degree*, or according to the round number 28500, or 19 *Holland miles*. They which underſtand *Spherical Trigonometry*, from the given A B, A P, the *Angle* A B P, may find the *Arch* B P to be 1 *degree*, 14 *minutes*; which when they are equal with 34710 *Perches*, 1 *degree* ſhall be equal to the *Perches*, or of 18 *miles*, and $\frac{2}{3}$. But the cauſe that this number differeth from that of *Snellius*, is firſt, that *Snellius* did not take the very points of the *Towers* B P, by which he obtained the *Angle* G B P, for the knowing the *Elevations* of the *Pole*; but he took the places a little diſtant from them: Notwithſtanding no *man* can doubt but the ſame may be found to be the *Altitude* of the *Pole*. The other cauſe is, that he taketh the *Lines* B G, B P, P G as ſtrait, which nevertheleſs are not ſtrait, although this diſcord may ſeem to make little or no difference of any moment. But let *Snellius* his quantity of a *degree* of 28500 *Perches* be taken (mine of 28300 *Perches*) his makes $19\frac{1}{3}\frac{2}{3}$ *miles*, (mine $18\frac{5}{6}$ *miles*) the *Perimeter* or *Circuit* according to *Snellius*, ſhall be 10260000 *Perches*, 123120000 *feet*, or 8640 *Holland miles*.

See *Snellius* in page 197.

The fifth manner, being the firſt Terreſtrial way of meaſuring the Earth.

The firſt Terreſtrial way for the finding out the magnitude, &c. of the Earth.

The three following manners or ways are *Terreſtrial*, performing the work without the *Heaven* or *Meridian Line*. Let B P be the *Altitude* of the *Tower*; this is to be ſought out in a *Land-meaſuring* way: then let P s be the diſtance of the moſt remote term from whence the *Tower* may be ſeen. And although P s be not a *ſtrait Line*, yet becauſe it is the leaſt part of the *Periphery* of the whole *Earth*, therefore it is taken for a *ſtrait line*; and the *Triangle* ſtrait angled B P s, in which by the given B P, P s, the *Angle* B s P is found, to whom B R s is equal, whoſe *meaſure* is the *Arch* S P. Therefore as this *Arch* is to one *degree*, ſo P s the found *diſtance*, is to the quantity of one *degree*. As for Example; let B P the *Altitude* be 480 *Paces*, and let the *diſtance* P s of the *point* s, which endeth the Sight, be 40000 Paces, or 10 *German miles*: therefore let it be wrought according to the *Problem* of the ſecond Chapter. As P s 40000 *paces* are to B P 480 *paces*, ſo the whole *Sine* 1000000 is to 11964, the *Tangent* of the *Angle* B s P, or S R P, or of the *Arch* S P, to wit, 41 *minutes*; therefore as 41 *minutes* are to 60 *minutes*, ſo 40000 *paces* are to 59000 *paces*, that is about 15 *miles* for 1 *degree*.

See Scheme.

Or

Or the *Diameter* P R may be found without the *Table* of *Sines*, or without the finding the *Perimeter*: For as B P is to P S, so P S is to P R; as 480 is to 40000, so 40000 is to 3333333 *paces* for the half *Diameter* R P.

The sixth manner of measuring the Earth, being the second Terrestrial, without the knowledge of the distance.

The second terrestrial way for the measuring the Earth.

But truly the same half *Diameter* R P shall also be concluded in this manner: Let B P be the high *Tower*, to wit, the *Plummet* being let down from the *hole*, the height thereof may be found to be 100 *paces*. Or if the height of the *Mountain* P B be known by another *Geodesie*, or *surveying* 4000 *paces*, afterwards the *Instrument* being applied in the top of B, let the *Angle* of the last Sight be found P B S, 88 *degrees*, 37 *minutes*: Therefore B R S shall be one *degree*, 23 *minutes*.

Out of the *Canon* of *Sines*, let the *Sine* of 88 *degrees*, 37 *minutes*, be taken, and let this be subtracted from the whole *Sine* 10000000. And let it be dispatch'd thus: as the remainder is to the *Sine* of 88 *degrees*, 37 *minutes*, so B P of 1000 *paces* is to the half *Diameter* S R in *paces*.

The seventh manner, being the third Terrestrial.

The third terrestrial way for the measuring the magnitude of the Earth.

This way or manner shall seem more accurate then the former ways, and shall appear more applicable to the practice, taking two *mountains* or *heights*, of whom, not the height but the distance may be known, which may be found *Geodetically*, or by the Art of *Surveying*. Let B P be one *Altitude* of the *Mountain*, *Tower*, &c. S T the other height; let T P be the distance of five *German miles*; let the *Angle* B T R 89 *degrees*, 55 *minutes*, be found by the *Instrument*, and in the other *Mountain* T B R 89 *degrees*, 55 *minutes*. The *Angle* P R S shall be 920 *minutes* (because the three *Angles* T, B, R, are equated to two strait *Angles*, 180 *degrees*) wherefore according to the *Golden Rule*, Work, as 20 *degrees* are to 60 *degrees*; so 5 *miles* to 15 *miles* for 1 *degree*.

See Scheme.

These are the principal manners and ways of *measuring* the *Earth*: For by the found out *measure* of 1 *degree*, the whole *Perimeter*, *Diameter*, *Superficies* and *Solidity* is found out.

Because according to *Snellius*, the *Perimeter* is 8640 *Holland miles*, or 10260000 *Rhindlandish Perches*, or 123120000 *feet*: therefore by the *Problem* of the second Chapter, the *Perimeter* of the *Earth* is found to be 1088¼ *miles*, or 1633190 *Perches*, or 19598300 *feet*. The *Superficies* of the *Earth* 18811353¼ square *Holland miles*.

And the whole *Solidity* is 4095683512 *Cubick miles*.

The calculation of German miles usual.

But because the calculation by *German miles* is more usual, 15 of which makes 1 *degree*, therefore these may be used, but upon this condition, that such *miles* may be understood, of which 15 may make 19 *Holland miles*, or that 1 *mile* may contain 1900 *Rhindlandish Perches*.

Therefore the *Periphery* of the *Earth* shall be 5400 such *miles*, the half *Diameter* 860, the *Superficies* 9278181 square *miles*, the *Solidity* shall be 265693384 *Cubick miles*.

The Italian miles most commodious.

Yet the *Italian miles* are the most commodious, 60 of which are allowed to 1 *degree*; for so 1 *mile* fittingly answereth one *minute* of a *degree*. But such an *Italian mile* ought to be understood, which may contain 475 *Rhindlandish Perches*; so the *Circuit* of the *Earth* shall be 21600 such *miles*, the half *Diameter* 3440 *miles*. These things being thus expounded, we must alledge and bring hither the causes why the fore-rehearsed dimensions or measurings of Authors may so differ, and what is wanting in every one of them.

Reasons shewing errors in the differing of the dimensions of the Earth according to the *Arabians*, and others, Mathematicians.

In the first manner of dimensions these things occur; First, That an Errour may be committed in taking the *elevation* of the *Pole*. Secondly, that a doubt may be made concerning places under the same *Meridian*. Thirdly, that the distance may not be declared distinctly: And because the *Arabians* used this manner,

manner, therefore the things that are desired in their dimension, are these: First, the exact quantity or greatness of their *mile*, (which according to *Alfraganus* is 4000 *Cubits*) as unknown to us. Secondly, the *Arabians* have not shewed to us the places, whose *Elevations* they took, and therefore we cannot make further search concerning their diligence. Thirdly, neither did they demonstrate their manner by which they measured.

In *Eratosthenes*'s *dimension* these things deserve correction. First, that to the *Arch* found B z of 7 *degrees*, 12 *minutes*, he did not add 15 *minutes*, for the *Arch* intercepted between the *Radius Solis* X Z, which was to be taken. Secondly, that he did not prove *Syene* and *Alexandria* to lye under the same *Meridian*. Thirdly, that the term of the *Shadows* cannot be exactly noted; and besides, that the places about *Syene*, even to 150 *Stadiums*, have this property, that the *Style* is without a shadow. Fourthly, that he took the distance between *Syene* and *Alexandria*, according to the opinion of the Vulgar sort, which neglecteth, and hath no care of exactness; neither can the *magnitude* of the *stadiums* be certainly manifest unto us.

In *Posidonius* his manner these blemishes are judged to be; First, that he thought *Canobus* was not lifted up above the *Horizon* of *Rhodes*, whenas notwithstanding it may be elevated 2 *degrees* above it. Surely he could not know, that it exactly touched it. Secondly, that he determined the distance between *Rhodes* and *Alexandria* by conjectures and common journeys. Thirdly, that his *stadiasm*, or *measure* of a *stadium*, is not sufficiently determinate. Fourthly, because it may be doubtful whether *Alexandria* and *Rhodes* lye under the same *Meridian*, &c.

In the *Terrestrial* manners of measuring the *Earth*, there is this defect: First, that in the exact measuring of *Hills*, a fault may easily be committed. Secondly, the furthermost point of the Sight cannot be known accurately, both because of the refractions, as also for the weakness of the eyes.

It may suffice to have spoken thus much concerning the greatest *Circuit* of the *Earth*, its half *Diameter*, *Superficies*, and *Solidity*. We might, if it were a *similar Body*, by the *solidity* of the *Earth*, judge of its *weight*: but because parts of a different *weight*, whose proportion is hidden from us, are in it; therefore its weight cannot, but by a conceived supposition, be determined.

The half Diameter of the Earth is the measure of all Celestial dimensions.

It is worthy observation, that the half *Diameter* of the *Earth* is the measure of all *Celestial dimensions*, as well in assigning the distances of the *Planets* from the *Earth*, and from themselves, as in numbring and computing their *magnitude*. So we say that the *Sun* is distant from the *Earth* ubout 1200 half *Diameters*, the *Moon* 40, &c.

The distance of the Sun and Moon from the Earth.

But seeing in *Geography* we do not only consider the great *Circles* of the *Earth*, as the *Equator*, &c. but also the *Parallels* of the *Equator*. Therefore we must likewise determine how many *miles* or *perches* answer one *degree* in every *Parallel*. We have taken the accounting of the *Perches* out of *Snellius*, but I my self have reckoned up the *miles*; to wit, 1900 *Perches* for a *German mile*; 1500 for a *Belgick* or *Holland mile*: 475 for an *Italian mile*.

A TABLE of the Quantity of one Degree in every Parallel.

The Degrees in which the Parallels are distant from the Equator, or the Elevation of the Poles of the Parallels.

Equator of the	Perch of one degree	Holland miles. mil.	Holland miles. per.	German miles. min.	Italian miles. min.
	28500	19	0	15. 0	60. 0
1	28496	18.	1496	14. 59	59. 56
2	28483	18.	1483	14. 59	59. 55
3	8461	18.	1461	14. 58	59. 52
4	28431	18.	1431	14. 57	59. 50
5	28392	18.	1392	14. 56	59. 46
6	28344	18.	1344	14. 55	59. 40
7	28288	18.	1288	14. 53	59. 37
8	28223	18.	1223	14. 51	59. 24
9	28149	18.	1149	14. 48	59. 12
10	28067	18.	1067	14. 46	59. 4
11	27976	18.	976	14. 43	58. 52
12	27877	18.	877	14. 40	58. 40
13	27769	18.	769	14. 37	58. 28
14	27653	18.	653	14. 33	58. 12
15	27529	18.	529	14. 29	50.
16	27653	18.	453	14. 25	57. 40
17	27255	18.	255	14. 21	57. 20
18	27105	18.	105	14. 16	57. 4
19	26947	18.	0	14. 11	56. 44
20	26781	18.	0	14. 6	56. 24
21	26607	17.	1107	14. 0	56. 0
22	26423	17.	925	13. 54	55. 36
23	26234	17.	734	13. 48	55. 12
24	26036	17.	536	13. 42	54. 48
25	25830	17.	330	13. 36	54. 24
26	25616	17.	116	13. 29	54. 0
27	25394	16.	1394	13. 22	53. 28
28	25164	16.	1164	13. 15	53. 0
29	24927	16.	927	13. 7	52. 28
30	24681	16.	681	13. 59	51. 56
31	24429	16.	429	12. 51	51. 24
32	24169	16.	169	12. 43	50. 52
33	23902	15.	1402	12. 35	50. 20
34	23628	15.	1128	12. 26	49. 44
35	23346	15.	846	12. 17	49. 8
36	23057	15.	557	12. 8	48. 32
37	22761	15.	261	11. 59	47. 56
38	22458	15.	0	11. 49	47. 16
39	22149	14.	1149	11. 39	46. 36
40	21832	14.	832	11. 29	46. 0
41	21509	14.	509	11. 19	45. 16
42	21180	14.	180	11. 9	44. 36
43	20843	13.	1343	10. 58	43. 52
44	20501	13.	1001	10. 47	43. 8
45	20152	13.	652	10. 36	42. 24

The Latitude	Of a Perch of one degree.	Holland miles. mil.	Holland miles. per.	German miles. min.	Italian miles. min.
46	19798	13.	298	10. 25	41. 40
47	19437	13.	0	10. 14	41. 0
48	19070	12.	1070	10. 2	40. 8
49	18698	12.	698	9. 50	39. 20
50	18319	12.	319	9. 38	38. 32
51	17936	11.	1436	9. 26	37. 44
52	17546	11.	1046	9. 14	37. 0
53	17152	11.	652	9. 2	36. 8
54	16752	11.	252	8. 49	35. 26
55	16347	10.	1347	8. 36	34. 24
56	15932	10.	937	8. 23	33. 32
57	15522	10.	522	8. 10	32. 40
58	15103	10.	103	7. 57	31. 40
59	14671	9.	1179	7. 44	31. 0
60	14250	9.	750	7. 30	30. 0
61	13817	9.	317	7. 16	29. 4
62	13380	8.	1380	7. 2	28. 8
63	12939	8.	939	6. 48	27. 12
64	12494	8.	994	6. 34	26. 16
65	12045	8.	45	6. 20	25. 20
66	11592	7.	1092	6. 6	24. 24
67	11136	7.	636	5. 52	23. 28
68	10676	7.	176	5. 38	22. 32
69	10213	6.	1213	5. 23	21. 32
70	9748	6.	748	5. 8	20. 32
71	9279	6.	279	4. 53	19. 32
72	8807	5.	1307	4. 38	18. 32
73	8333	5.	933	4. 23	17. 32
74	7846	5.	346	4. 8	16. 32
75	7376	4.	1376	3. 53	15. 32
76	6895	4.	895	3. 38	14 32
77	6411	4.	411	3. 23	13. 32
78	5925	3.	1425	3. 8	12. 32
79	5438	3.	938	2. 52	11. 28
80	4949	3.	449	2. 36	10. 24
81	4458	2.	1458	2. 20	9. 20
82	3966	2.	966	2. 5	8. 20
83	3473	2.	473	1. 50	7. 20
84	2979	1.	1479	1. 34	6. 12
85	2484	1.	984	1. 18	5. 12
86	1988	1.	488	1. 3	4. 12
82	1492	0.	1492	0. 47	3. 12
88	995	0.	995	0. 31	2. 4
89	497	0.	497	0. 16	1. 4
90	0	0.	0	0. 0	0. 0

CHAP.

CHAP. V.

THE *Pythagorical motion*, or turning the *Earth* about, as with a *wheel* (not that quaking and shaking) is the cause of very many *Celestial appearances* according to the *Copernicans* opinion, seeing that without it every place would have a perpetual constancie of these. But indeed there is no property or quality of the *Earth*, concerning which there can be greater disputations, sith that not very long ago it hath suffered the Censure of the *Church* of *Rome*. Yet because to many men it seemeth likely to be true, that such a *motion* of the *Earth* may be given, therefore I will endeavour briefly to unfold the same. The *Pythagorical* motion of the Earth is the cause of many Celestial appearances.

It is not unknown to any of the very Vulgar sort, that the *Sun*, *Moon*, and all the *Stars* of *Heaven* appear every day, that is, in the space of 24 *hours* to be moved from East to West, and commonly to return to the same places of *Heaven*. It must therefore needs be that either they are really moved, or that we are moved, and that our motion or moving be imputed to the *Stars*: For if two things change their distance, one of them at least was moved; which principle is most manifest. The Motion of the Sun, Moon, and Stars, and their appearances.

That the *Earth* standeth still, and that the *Stars* with the *Heavens* are moved, was, and is yet, the common opinion of *Astronomers*, which are called *Ptolomaians*, or of such as follow the Doctrine of *Ptolomy*; yet the *Pythagoreans* long ago maintained that the *Stars* held their place constantly without budging from thence, and that the *Earth* was rouled and wheeled about its *Center*; one of whom was the famous *Aristarchus* of *Samos*, who for his defending this Opinion, was by his Adversary accused of prophaning and violating *Religion*, before the most famous and severe *Bench* of the *Areopagites*, but he was nevertheless quitted by the sentence of those most sincere *Judges*. Yet this Opinion found but few Abettors, insomuch that many Ages it was as it were buried in oblivion: so that there was no mention in *Schools* made thereof, until such time that eminent Astronomer *Copernicus*, some two or three Ages past made it famous, and so prevailed therein, that very many excellent *Astronomers* imbraced this Opinion, and confirmed it with sundry Arguments and Reasons; among whom not long since flourished *Kepler* the Emperour's profest *Mathematician*, and *Galileus* of *Galilee* the *Italian Mathematician* to the grand Duke of *Tuscany* or *Florence*, and *Lansbergius Belga*. And because there is a twofold motion of the *heavenly Bodies* perceived by us; the first whereof is, whereby all the *Stars*, as well fixed, as *Planets*, seem with equal time, to wit, in 24 *hours* to be carried round about the *Earth*, and to rise, and keep their southing and setting: The second motion is, that which is called proper, whereby the *Planets* are observed with a different or diverse motion, as also are the *fixed Stars* to be carried from West to East. The *Ptolomaians* affirm that both these *motions* are in the *Stars* themselves, or their *Orbs*; But the *Copernicans* ascribe that first *motion* not to the carrying about of the *Earth* only from one place to another, but to the wheeling and turning about of it remaining in her own place, about her own *Axis*, from West to East, (such as seem to be implanted in all the *Stars*:) yet they acquit the *fixed Stars*, as also the *Sun* from the aforesaid second *motion*, and attribute the apparent *motion* of these to the carrying of the *Earth* about the *Sun*, and to the inclination of the *Axis*, notwithstanding they leave the said second *motion* to the rest of the *Planets*. Forsooth they deny the *Sun* to be a *Planet*, but place the *Earth* in its stead: and they prefer the *Sun* into the *Ptolomaian* place of the *Earth*, to wit, the *Center* of the whole World, forasmuch as that is the cause which maketh the *Earth*, *Saturn*, *Jupiter*, *Mars*, *Venus*, and *Mercury* to turn round about. The opinion of the Ptolomaians and Pythagoreans concerning the motion of the Stars, &c. The opinion of Copernicus therein.

These are the Reasons of this Opinion.

Of the great number of the Stars which seem to perform their circuit in 24 hours.

1. Because so great is the number of the *Stars* which seem to perform their *Circuit* in 24 *hours* about the *Earth*, and this appearance may be declared by the *motion* of the *Earth*, only remaining in her place; therefore it is more agreeable to reason to determine this *motion*, rather then that; insomuch as when we sit in a *Ship*, and sayling nearer to a Station or Harbour of many *Ships*, which in the mean while seem as it were to approach or sayl to us, yet we do not ascribe a motion or sayling to them. And seeing nature doth in no case work by many things, that which she can perform with a few; it is likely in this business also that that is so observed and kept by her.

Of the swift motion of the Stars, &c.

2. Because the swiftness of that *motion* of the *Stars* would be incredible, and such as would surpass all our imagination: for seeing that they are distant from the *Earth* almost an infinite space, and that most vast *circuit* ought to be run in one *minute* of an *hour*; at least, that they should be carried through 100000 *miles*. Contrariwise, if this motion should be ascribed to the *Earth*, she remains still in her place, neither need we to fear the least swiftness, because she is turned about her own *Axil* as a *Wheel*.

The vastness of the Celestial Bodies compared with the body of the Earth.

3. There accrues a greater force to this Argument, if we compare the huge vastness of the *Celestial Bodies* with the Body of the *Earth*: for seeing that the *Sun* at least is 200 times bigger then the *Earth*; but the *fixed Stars* are in a manner 1000 times bigger; to what man can it not be made more probable, that the *Earth* is turned about its own *Axil* by a natural *motion*, than that so huge *Celestial Bodies* should be moved from place to place?

Of the solidity of the Celestial Orbs according to *Tycho Brahe*.

4. Because all the most famous *Astronomers* being compelled with *Tycho Brahe* by the appearances of the *Stars*, &c. do now deny that the *Celestial Orbs* are solid and hard, which appearances the ancients used for proving the more easie supposition of the motion of the *Stars*; therefore the carrying or wheeling of them about the *Earth*, seemeth more incredible. Yea, they deny the *Orbs* to be solid, because if these were so, a mutual penetration of the *Orbs* must needs be granted, seeing that some *Planets* are found frequently in the *Sphere* of some other.

No reason for the motion of the Stars about the Earth.

5. No reason can be given why the *Stars* can be moved about the *Earth*, when as contrariwise there may some reason be given, why the *Earth* and the rest of the *Planets* may be moved about the *Sun*.

Of the Pole and Axil.

6. Neither is the *Pole* nor *Axil* real, about which the *Stars* are determined to be moved: contrariwise in the *Earth* there is both *Pole* and *Axil*.

The sayling of Ships from West to East, more easie, than from East to West.

7. Because the *sayling* of *Ships* from West to East is more easie, than from East to West: For out of *Europe* into the *Indies* they sayl in about four *months*; when as in their return home it is about six *months*. And this is because in their *Voyage* thither they are carried or moved into the same point with the *Earth*; but in their return they are moved or carried into the contrary.

From the moving of the Earth, the Celestial appearances, &c. may be declared.

8. Because all the *Celestial appearances*, the rising and setting of the *Stars*, the increase or lengthning of the *days*, &c. may be evidently declared, if we maintain the *Earth* to be moved: But most especially the commodiousness and necessity of this *Hypothesis* is seen in those admirable properties of the *Planets*, to explicate which the *Ptolomaicks* are compelled to invent many *Circles*, *Epicycles*, and *Eccentricks* without any reason: But the *Copernicans* do so derive them from the second motion of the *Earth* about the *Sun* with easie labour, insomuch that thereby they can make the cause of them manifest, and so easie, that the very unlearned may understand them; to wit, first, why the *Planets* may seem sometimes to be retrograde or go backwards, and indeed *Saturn* oftner and longer than *Jupiter*, *Jupiter* than *Mars*, &c. sometimes to be carried with a swifter motion, and sometimes to be stationary. 2ly, Why *Venus* and *Mercury* can never the whole night long be seen. 3ly, Why *Venus* can never depart any greater distance from the *Sun* than 60 *degrees*, but *Mercury* no greater

greater then thirty *degrees*, and therefore those two *Planets* can never be seen to be opposite to the *Sun*. Fourthly, why *Venus* in the evening of the same day after the *Sun* and in the morning before the *Sun*, may be seen.

I forbear to bring hither any more *appearances*; but they are the principal, from which I think an Argument of greatest moment may be fetcht for this Motion of the *Earth*; when as by this Motion of the *Earth* they may be so commodiously declared, that it should rather be admired, if the *Earth* could not be moved by such evident appearances.

These are the easier Arguments by which the *Copernicans* would evince the motion of the *Earth*, which although they be not demonstrative, yet they make this *hypothesis* more probable, than that which determines the *Heaven* to be moved: for one of them must needs be admitted.

The Reasons of some against the moving of the Earth, as the *Ptolomaians*.

But these Reasons which some men (to wit, the *Ptolomaians*) alledge to the contrary, are easily dissolved; which are these: First, that the *Earth* is unfitting for motions by reason of its ponderosity. Secondly, that the parts of the *Earth* are naturally moved with a *strait motion* to the *Center*; therefore a *circular motion* is contrary to the nature thereof. Thirdly, if the *Earth* should be moved, a *stone* cast down from a *Tower* could not fall to the foot thereof. Fourthly, a *bullet* shot out of a *piece* of *Ordnance* towards the East, at some mark, it could not come home to it or hit it, if the *mark* with the whole *Earth* were moved towards the East, or at least the hitting the mark should be more swift, than if the *bullet* were shot towards the East. Fifthly, neither the *Towers* nor *buildings* could stand stedfast, but would fall by reason of that *motion* of the *Earth*; neither could men be without giddiness, by reason of the whirling about of the *Earth*. Sixthly, because we see that the *Stars* change their place, but not the *Earth*. Seventhly, because the *Earth* is in the Center of the World, but the *Center* is not moved. Eightly, because the *holy Scriptures* do confirm the stability or stedfastness of the *Earth*.

The aforesaid Reasons of the *Ptolomaians* answered by the *Copernicans*.

Yet indeed the *Copernicans* to these Arguments use to answer after this manner. To the *first* they Answer, denying the whole *Earth* to be heavy; for ponderosity is a tendency of the parts to their whole homogeneous (of the same kind) and such a heaviness is also discovered in the parts of the *Sun* and *Moon*, and yet notwithstanding neither the *Sun* nor *Moon* is said to be heavy.

To the *second* they Answer, That that right *motion* of the parts of the *Earth*, not of the whole *Earth*, and the *circular motion* thereof, doth not hinder the strait carrying of those parts, which is evidenced by the parts of the *Sun* and *Moon*.

To the *third* Argument they reply in a threefold manner: First, that such heavy things are not primarily carried to the *Center* of the *Earth*, and therefore are born by a very short line to the *superficies* thereof, as *Iron* tendeth not to the *Center* of the *Loadstone*, but to the *Loadstone*. Secondly, the whole *Air* cleaveth to the *Earth*, and is moved together with her; therefore all such heavy things being thrown together downwards, get this *circular motion*, and are moved as it were in a Vessel. And Thirdly, *Gassendus* by frequent experience hath demonstrated, that if any thing be cast from a moved body, that which is so cast is also moved with that motion of the moved body; as for example, a *stone* thrown down from the top of the *Mast* of a *Ship* moved most swiftly, is nevertheless not left by the *Ship*, but falls down to the foot of the *Mast*; and from the foot of the *Mast* a *bullet* being shot perpendicularly out of a *hand-Gun*, falleth again perpendicularly: therefore the alledged Objection is nothing worth.

The Opinion of *Gassendus* therein.

To the *fourth* Reason, they answer in the same manner as unto the third.

To the *fifth* they say, That some such thing hath no place, because the *motion* is equal, neither doth it dash against another body: and the *buildings* as it were heavy bodies and homogeneous, or of like to the *Earth*, are moved as in

in a *Ship*; for we find in a *Ship* moved very ſwiftly, or ſlowly, the *bodies* ſet upright therein are not overthrown; yea *Cups* and *pots* full of *Wine*, or other liquor, ſhed nothing thereof at all.

To the *ſixth* we ſay, That the change of the *Stars* place is not perceived, but we find the change of their ſituation in reſpect of our ſelves; but this mutation of poſition may be obſerved and be, whether we be moved with the *Earth*, or the *Stars* be moved, we being ſtedfaſt, or alſo both we and the *Stars*.

In the *ſeventh* Objection, both the *major* and *minor propoſition* is falſe, or at leaſt doubtful.

To the *eighth* they reply, Firſt, that the *holy Scripiure* in *phyſical* or *natural things* doth ſpeak according to appearances and the capacity of the Vulgar; for example, when the *Moon* with the *Sun* is called a *great light*, becauſe it was created to give light to the Night, whenas indeed the *Moon* is not great in reſpect of the *Stars* and *Earth*, neither hath ſhe any light of her own proper nature, nor doth ſhe give light in all Nights to the *Earth*. So the *Scripture* ſaith, that the *Sun* goeth to the extreameſt part of the *Earth*, and that he returneth to that end again, when as notwithſtanding there is no ſuch end or furthermoſt part. So in the book of *Job*, a plane and ſquare figure is attributed to the *Earth*, under whom *Pillars* are ſet, upon which it leaneth; which indeed muſt not at all be ſo underſtood, as the very Vulgar well know. There might more places be alledged hither; but theſe are ſufficient: For the *holy Scriptures* were not given to us, thereby to play the *Philoſophers*, but to practice Piety. Secondly, certain places of *Scripture* are wont to be alledged, which ſpeak not concerning the immobility thereof, but concerning its conſtancy and durance, as that place which we have brought hither out of *Job*.

Of the *Moon*.

Of the *Sun*.

Thus have we briefly declared of what ſort the motion may be, which the *Copernicans* aſcribe to the *Earth*, of which a more exquiſite explication is uſually given in *Aſtronomy*. But that being ſuppoſed, all thoſe things are to be applied to the *Earth*, which are wont to be conſidered in a *Globe* turned round about, to wit, the *Axil* about which it is turned is one of the *Diameters*: the *Poles* are the *extremities* or two *points*, which are not moved: the greater *circle* or *periphery*, according to which the circumrotation or wheeling about is made, and its *parallels*. Now let us ſee concerning the ſwiftneſs of that *motion*. The firſt *motion* by which the *Earth* is turned round about his *Axil*, cannot be ſeen and conſidered in the whole *Earth* at once, but in divers places it is alſo different, to wit, how much the nearer the place is to the *Equator*, with ſo much the greater ſwiftneſs and ſpace it is moved; but the greateſt *motion* is in the places that lie in the *Equator*. For indeed, becauſe every place of the *Earth* in twenty four hours, is rouled about by the ſpace of a whole *periphery*, to wit, by 360 *degrees*; therefore the ſpace of one hour is found. If 360 be divided by 24, the quotient is fifteen, which are ſo many *degrees*. Theſe are the *degrees*, by which the place lying in the *Equator*, or without it, is turned about in one hour; but they make, if the place lye in the *Equator*, two hundred twenty five *German miles*, whence ſhe will be turned in four *minutes* of an *hour* through one *degree*, that is fifteen Miles.

Of the *Axil*, *Poles*, *Periphery*, *Parallels*, &c. of the Globe.

Of the motion of the *Earth*; its difference, ſwiftneſs, &c.

But the places lying without the *Equator* towards either of the *Poles*, are in the ſpace of the ſame *hour* wheeled about by ſo many *degrees*, but ſuch as are much leſs; forſooth the reaſon is the ſame between the ſwiftneſs of the *motion* and the diſtance of two places, as is between the *ſigns* of the *Arches* by which thoſe places are diſtant from the *Pole*: for example, the diſtance of *Amſterdam* from the *Equator*, or the *elevation* of the *Pole*, is 52 *degrees*, 23 *minutes*. So the diſtance from the *Pole* is 37 *degrees*, 37 *minutes*; whoſe *ſign* is 61037. Let us take one place to be in the *Equator*, whoſe diſtance from the *Pole* is 90 *degrees*, his *ſign* is 100000. But the place under the *Equator* in four *minutes* is carried through 15 *miles*, and in an *hour* is carried through 225 *miles*. Wherefore by the *Rule of Three*, as 100000 are to 61037, ſo

The diſtance of *Amſterdam* from the Equator, or the Elevation of the Pole.

ſo fifteen to nine miles, or as 225 to 135 *miles*; therefore *Amſterdam* every hour by this motion is carried through 135 *miles*.

But the diſcovery of this is much eaſier by the *Table*, which we have ſet in the end of the foregoing *Chapter*: For the *diviſion* of 360 *degrees* being made by twenty four *hours*, we find that any place every *hour* is moved through fifteen *degrees* of his own *Circle*, and therefore that it is moved through one *degree* in four *minutes*. If we therefore enter that *Table* with the *Elevation* of the *Pole*, or diſtance from the *Equator* of that place propoſed, we ſhall find the *miles* ſet down at the *degrees* of the given *Elevation*, which are due to the motion of the place propoſed in the ſpace of four *minutes*; for example, At *Stockholme* the *elevation* of the *Pole* is about 60 *degrees*, and in the *Table* at the *degree* 60, I find ſeven *miles* to anſwer with one *degree*; therefore I ſay, that *Stockholme* is moved about in four *minutes* by ſo many *miles*.

The Elevation of the Pole at *Stockholme*.

So great is the firſt *motion* conſidered in the places of the *Earth*; but the ſecond *motion* is of the whole *Earth* from place to place, and all the parts or places thereof are moved with an equal ſwiftneſs, and by equal *peripheries*. The quantity hereof dependeth of the diſtance of the *Earth* from the *Sun*, and is performed in a whole years ſpace, and thereby the *Earth* every day moveth through about one *degree*.

The ſecond motion of the whole *Earth*, which is moved with an equal ſwiftneſs, and by equal *peripheries*.

Concerning the third *motion* of the *Earth*, becauſe it hath a more hard conſideration, I leave it to be treated of by *Aſtronomers*, becauſe in *Aſtronomy* there is a neceſſity of ſuppoſing it. Indeed *Origanus* hath raiſed a Controverſie concerning the ſecond *motion* alſo, thinking the firſt *motion* to be convenient for the *Earth*, but that the ſecond ſhould be left for the *Sun* and fixed *Stars*; but the *Phænomena's* or appearances in the motions of the *Planets*, which we have alledged before, do ſufficiently enough maintain the Motion of the *Earth*.

CHAP. VI.

Concerning the ſituation or place of the Earth, in reſpect of the Planets and Stars.

THe conſideration of the *Earths* ſituation in this whole ſyſteme of the *World* in reſpect of other *Planets*, hath a contemplation ſuitable to that which we have alledged concerning the Motion of the *Earth* in the foregoing Chapter: For the common Opinion of *Philoſophers* and *Aſtronomers*, according to *Ptolomy*, hath decreed, that the *Earth* takes up the *Center* of this whole Univerſe, ſo that ſhe is converſant in the middle of all the *Stars* and *Planets*. But they of *Copernicus* his Sect, with the ancient *Pythagoreans*, place the *Sun* in the *Center* of all the Stars; but they ſet the *Earth* as it were a *Planet* between *Mars* and *Venus*, and they think that ſhe is carried there about the *Sun* with a yearly courſe or ſpace, which is underſtood better by the *Diagram* or deſcription thereof. Yet notwithſtanding therein do theſe two differing Opinions agree, that both confeſs, that the *Center* of that firſt *motion*, whereby the *Stars* ſeem to us in the ſpace of twenty four *hours* to be carried about, is in the *Earth*. For both *Aſtronomy* and *Geography* do want this Suppoſition, inſomuch that whether you follow the *Ptolomaican* or *Pythagorean* Opinion, the firmneſs and certainty of *General Aſtronomy* and *Geography* loſeth nothing: For the difference of Opinions conſiſteth in this, that the *Ptolomaians* will have this motion to be in the *Stars* themſelves; but the *Pythogoreans* is to be the *Earth*, the *Stars* in the mean while reſting, and never moving; neither of which is it neceſſary either for common *Aſtronomy* or *Geography* to determine.

The Earth, according to the Opinion of the Philoſophers and Aſtronomers of *Ptolomy*, takes up the Center of the Univerſe.

The *Sun* according to the *Copernicans*, the Center of the Univerſe.

See Scheme.

According

The placing the *Sun*, *Earth*, and other Planets, according to the *Ptolomaians* and *Copernicans*.

According to the *Ptolomaians* this is the placing of the Planets to the Earth and fixed Stars; The *Earth*, *Moon*, *Mercury*, *Venus*, *Sun*, *Jupiter*, *Saturn*, and the *fixed Stars*.

According to the *Copernicans*, such is the situation or placing; The *Sun* is placed in the middle of the consistence or systeme of the World, as the *heart*, or *fire*; next to him the Orb of *Mercury*, *Venus*, the *Earth*, *Mars*, *Jupiter*, *Saturn*, and the *fixed Stars*.

If you demand, how much the *Earth*, and we being on the Earth, are distant from the *Planets*, you must know that the *distance* is not always the same, but is changed every day, and therefore *Astronomers* do reckon up three *degrees* of *distances*, *viz.* the least, the mean, and the greatest. The mean *distance* of the *Earth* from the rest of the *Planets*, is according to many *Astronomers* this following:

The mean distance of the *Earth* from the other Planets.

The *Earth* is distant from the *Moon* with its sixty half *Diameters*. From *Mercury*, 110. From *Venus*, seven hundred. From the *Sun*, 1150. From *Mars*, about five thousand. From *Jupiter*, about 11000: And from *Saturn*, 18000.

But yet indeed the distance of *Mars*, *Jupiter*, *Saturn*, and the *fixed Stars*, is altogether uncertain, by reason of the defect of the *parallaxy* or *mutual changing*. In the *Copernicans Hypotheſis*, the distance is varied not only from the motion of the *Planets*, but also from the motion of the *Earth* it self.

The Reasons of either Opinion, to wit, of the *Ptolomean* and *Copernican*, concerning the place of the *Earth*, are almost the same with them, which in the precedent *Chapter* we have alledged: for this disputation hath great affinity with the same. For if you ascribe and allow the second motion to the *Sun*, which is called the proper motion; not the *Sun*, but the *Earth* shall be in the midst; but if you allow that second Motion to the *Earth*; not the *Earth*, but the *Sun* shall be in the middle. These Arguments following may be said for the *Copernicans* Opinion.

The *Sun* not only the fountain of Light, but also the vital Spirit of the whole Universe.

1. The *Sun* is not only the Fountain of Light, which as a most clear shining torch illuminates the *Earth*, *Moon*, *Venus*, and without doubt the rest of the *Planets*; but he is the *fire-hearth* of *heat* and *vital ſpirit*, by which this whole Universe seemeth to be cherished and sustained. Therefore it is probable that he holdeth the middle place, and that these are moved round about him.

2. It is more likely that the *Earth* should be moved about the *Sun*, that together with the rest of the *Planets*, she may receive *light* and *heat* from him.

The *Sun* a vast body, &c.

3. The *Sun* being placed in the midst, some cause is rendred why the rest of the *Planets* and the *Earth* may be carried round about him, to wit, because the *Sun* is a most vast body, and endowed with great *vertues* and *forces*, therefore he rowleth and stirreth up the rest of the *Planets* to their motion. And this Reason especially taketh place, if we admit *Keplers Hypotheſis* concerning the motion of the *Planets*.

Spots in the *Sun*.

4. The Observations of *Galilæus* and *Scheiner*, concerning the *ſpots* in the *Sun*, prove, that the *Sun* is moved about his *Axil*. In the same manner therefore the rest of the *Planets* have their cause of going about, neither seems it consistent with reason, that any other should be attributed to him.

5. If we allow the *Earth* a place between *Mars* and *Venus*, and allow the Center to the *Sun*; the motion of every *Planet* fittingly answers and agrees to the distance from the *Center*, which in the *Ptolomaick* Supposition is manifest not to be effected, by the consideration of the motions of the *Sun*, *Venus*, and *Mercury*.

6. Those *Celestial appearances*, which we have used in the former *Chapter*, for the proving the second Motion of the *Earth*, are also valid and efficacious for this place, which I have said must be assigned to the *Earth*, to wit, the *Retrograde* course and station of the *Planets*, and the admirable apparent motions

motions of *Venus* and *Mercury*, &c. For indeed that second motion of the *Earth*, doth before hand suppose this place, and placing of the *Earth*, or hath it joyned to it self very nearly: But this Argument in my Opinion is the chiefest. Yet for the first motion of the *Earth* nothing can be fetcht by way of Argument, for gathering thence the situation of the *Earth*. For the *Earth* might be in the *Center* of the *World*, if she were without, or wanted the second motion, as *Origanus* also determines.

The *Ariſtotelians* and *Platoniſts* Arguments about the *Earth*.

7. So also the variation of the distance of the *Planets* from the *Earth*, is well declared. Yet notwithstanding the *Aristotelians* and *Platoniſts* oppugn the *Pythagoreans* Opinion with many Arguments, and endeavour to challenge the *Center* of the *Earth* for a place, by these Arguments. First, heavy things are carried to the *Center* of the *World*; but the *Earth* is the heaviest body, therefore it takes up that *Center*. Secondly, heavy things would go from the *Earth* towards the *Center* of the Universe, unless this *Center* were in the Earth. Thirdly, the *Center* is the ignobleſt place, and the *Earth* also is the vilest part of this Universe: therefore it shall have the *Center* thereof. Fourthly, if the *Earth* were without the *Center* of the *World*, and motion of the *Stars*, then the *Stars* and *Conſtellations* would be seen in some seasons of the year, and some *days*, bigger than in others. Fifthly, neither would the middle part of Heaven always be conspicuous, as *Taurus* rising, the *Scorpion* should set, &c. Sixthly, neither would there be *Equinoxes*. Seventhly, neither the *Moon* rising eclipsed, would the *Sun* set, &c. Eightly, neither would the number of Miles in the *Earth* equally answer every *degree* in *Heaven*.

The aforesaid Reasons of the *Ariſtotelians*, refuted by the *Copernicans*.

The *Copernicans* do easily weaken these Reasons of the *Aristotelians*. For the first and second is refell'd, because the motion of heavy things is not to the *Center* of the *Univerſe*, but to the *homogeneal body*, as is proved by the parts of the *Moon*, the *Sun*, and *Loadſtone*. The third Reason taketh a false *major* and *minor* proposition: For the *Center* is also a noble place, and the *Earth* is not ignoble or base.

The other Reasons are easily disproved by *Diagrams* or *Deſcriptions*, this at least being fore-supposed, that the distance of the *Earth* from the *Sun* or *Center*, how great soever it be; yet if it be compared with the distance of the fixed *Stars* from the *Sun*, it would be so little, as that it would have no proportion to it.

The distance of the *Moon*, *Venus*, and *Mercury* from the *Earth*, not so great, as of *Mars*, *Jupiter*, and *Saturn*.

Moreover, the Explication of the *Theorem* belongeth to this place, that the distance of the *fixed Stars* and *ſuperiour Planets*, *Mars*, *Jupiter*, and *Saturn*, is so great from the *Earth*, that the *half Diameter* of the *Earth* hath no proportion to it; but the distance of the *Moon*, *Venus*, and *Mercury*, is not so great: touching the *Sun* there is as yet a doubt; surely, if there be any proportion of the *half Diameter* of the *Earth*, to the distance of the *Earth* from the *Sun*, that will be very small.

But the *Theorem* is proved thus; First, the fixed *Stars* and higher *Planets* appear to us to rise at the same moment, at which they would appear to rise by a right contrived supputation and calculation, if we were set in the *Center* of the *Earth*: Therefore the distance of our place from the *Center* of the *Earth*, that is, the *half Diameter* bears no proportion to the distance of the *fixed Stars*. Secondly, if we take the *Meridian* or *Altitude* of a *fixed Star*, or one of the superiour *Planets*, with an *Aſtronomical Inſtrument*, we find the same, as if we had observed it in the *Center* of the *Earth*: Therefore the *ſemidiameter* of the *Earth* vanisheth away in respect of that distance. Thirdly, if there were any proportion, then the distance of two *Stars* would be found to be lesser about the *Horizon*, than about the *Meridian*, because in this position they are nearer to the *Earth* almost by one *ſemidiameter* of the *Earth*.

The same Argument is valid as touching the *Sun* also; for his *Diameter* is not found greater in the *Meridian*, than when he is yet on the *Horizon*.

But the *Diameter* of the *Moon* is observed to be a little greater in the *Meridian*, than when as yet she is on the *Horizon*: Therefore in the *Meridian* it is somewhat nigher to us, to wit, almost one *Semidiameter* of the Earth.

CHAP. VII.

Concerning the substance and constitution of the Earth.

WE have in the foregoing *Chapters* considered the *qualities* or *properties* of the *Earth*, no regard being taken of its substance or being. But now these being declared; it is fitting we consider this also, that we may know what kind of body the *Earth* is, and how its parts cohere together; the which although it may rather rather seem natural, yet because it is requisite for the perfect knowledge of the *Earth*, we will here handle briefly, leaving the accurate consideration thereof to the *Natural Philosopher*.

Proposition I.

To declare of what simple and similar Bodies the Earth may consist, or be compounded of.

Of the four Elements of the Earth.

There are divers opinions of *Philosophers* concerning this matter. The *Peripateticks* number four *Elements* of the *Earth*, and the whole *sublunary World*, being now sufficiently known to the very Vulgar, *Fire*, *Air*, *Water*, and *Earth*. Many of the Ancients, as *Democritus* and *Leucippus*, determined that the whole World consisted of very little solid pieces, which differ only in their various *figures*, *shapes* and *magnitude*: and them many of the later *Philosophers* do follow; and of late *Cartesius*, endeavoured by such an *hypothesis* to declare all natural appearances.

The three Principles of the Earth by *Chymists*.

Chymists make three Principles, *Sal*, *Sulphur*, and *Mercury*, to whom some do rightly add *Caput mortuum* or the *Dead head*; when as they three are fruitful. But to me, doubtful terms and words being laid aside, and the things themselves well considered, there seem to be five *simple Bodies* the first Principles of all things, to wit, *Water*, *Oyl* or *Sulphur*, *Salt*, *Earth*, and a certain Spirit which the *Chymists* call *Mercury*. For indeed all *Bodies* and the parts of the *Earth* are resolved into those five *Elementary substances*. Notwithstanding I deny not that those differ not so much in essence, as in the singular variety of their *shapes* and *magnitudes*.

By Others, Five simple bodies, the first principles of all things.

Therefore the whole *Earth* consisteth of these *simple Bodies*, which are divers ways commixed, from whence ariseth so great variety of *Bodies*, which do appear different from one another, and similar or *Bodies* of like parts. But the more exquisite declaration of these points belong to *Natural Philosophy*, which I shall have occasion to treat of more at large in the first Volume of my Book of the *Arts* and *Sciences*, now ready for the Press.

Proposition

Proposition II.

The Earth is divided into dry and moist parts, or into Earth and Water, to which some joyn the Atmosphere.

This is the vulgar division of *Geographers*, and then the *Water* is taken in a large signification for all that is liquid or moist, and fluid and running, as the *Land* is taken for the whole dry and consistent part of the *Earth*, and thereby doth embrace and comprehend such various bodies of Nature, to wit, First, *Sand*, *Loam*, *Clay* and *Mineral Earths*, *Chalk*, *Cinnaber*, *Ochre*, *Terra sigillata* or *Saracens Earth*, *Earth* of *Samos*, *Bole-Armoniack*, with divers other kinds of *Earth*. Secondly, *Stones* of various sorts, the chief among which are *Diamonds*, *Emeralds*, *Rubies*, *Saphirs*, &c. Thirdly, *Mettals*, among which are *Gold*, *Silver*, *Copper*, *Tin*, *Lead*, *Mercury* or *Quicksilver*, *Iron*, *Steel*, &c. Fourthly, *Brimstone*, *Salts*, *Niter*, *Alom*, *Bitumen*, *Vitriol*, *Antimony*, &c. Fifthly, *Herbs*, *Plants*, &c.

Of the Land, and its various bodies of Nature.

To the *Water* are referred, first the *Seas*; secondly, *Rivers* and sweet *Waters*; thirdly, *Lakes* and *Fens*, or *Marshes*; fourthly, *Mineral Waters*, as *hot Baths*, *sowr Waters*, &c.

Of the Water and its parts.

The *Atmosphere* is that thin and subtile Body, which girts and encompasses the *Earth* towards Heaven, and contains the *Air*, *Clouds*, *showers of Rain*, &c. Therefore into these three Parts the Earth is fitly divided.

Of the Atmosphere, which encompasses the Earth.

Proposition III.

To expound how the Earth and Waters cleave or hold together, and make the Land.

The *Earth* not bounded with one Superficies, but hath hollow Cavities.

1. The *Land*, that is, the dry part of the *Earth*, is not bounded with one and that even *superficies* or *surface*; but she hath many hollow *Caves*, many parts lifted up aloft. In her *Cavities*, *caves* or *hollows*, which are here and there found round about the whole *Earth*, the *Sea* or *Ocean* is contained; and therefore part of the Earthly *superficies* is covered with *Waters*. Those *hollows* or *cavities* are not made of an even hollowness, but have here and there *Rocks* and elevated parts, and elsewhere they have *Gulphs* and *swallows* sunk very deep. So the part of the *Earth* appearing out above the *Waters*, hath certain (as it were) *Navels* in its middle, and some parts are more or less raised up, or sunk down, than others. So it cometh to pass, that the *Water* environing the whole *Earth* is hindred, that it overwhelms not the whole *Earth*, but the higher parts, and such as appear above the *Waters* are *Islands*, of which some are great and some small.

Mouths, holes Pipes, & other conveyances in the body of the Earth.

2. Besides that continual Channel in the *Earth* in the outward *superficies*, within also in the solid body of the *Earth* there are innumerable *Mouths*; *holes*, *swallows*, *windings*, *conveyances*, *deeps*, *pipes*, and huge vast *Receivers*, in some of which there is the *Sea*, which by that secret conveyance are joyned to the Channel of the *common Sea*; in some again there is *Sweet Waters*, *Rivers*, *Streams*: In some *spirits*, or else a *sulphury* and *smoking* substance. *Seneca* saith rightly, *He gives too much way to his eye-sight, who believeth not, that there are in the hidden and secret bosom of the Earth* Bays *of a vast Sea*. Neither do I perceive what may hinder, that there may not be some *Sea-shore*, and the *Sea* received by hidden passages. There is therefore no cause of doubting of there being many hollows in the very solid *Earth*: For verily we conjecture at it by these means.

First, by the *Rivers*, which are found in many places where Earth is digged, even to a notable depth, which is frequent in *Mines*.

Secondly, in some places the profundity of the *Sea* is beyond all sounding or measure.

Thirdly, there are some *Caves* in the *Earth*. In the Western part of *Hispaniola* is a *Mountain* of a great height, being hollow within with many

Caves, in which *Rivers* of *Waters* are thrown down headlong with ſo great ſound and ruſhing noiſe of ſtreams, that the very fall of thoſe *Waters* may be heard five miles diſtance.

Fourthly, ſome *Gulphs* or *Whirlpools* are found in the *Sea*.

Fifthly, *Earthquakes* do alſo prove the being of Cavities under the *Earth*.

Sixthly, ſome *Rivers* bury themſelves under the *Earth*, as *Niger*, *Tigris*, &c.

Seventhly, *Salt-ſprings*, which without doubt (for the greateſt part) ſpring and flow from the *Sea*, are found in many places.

Eightly, ſo in many places the grounds at the entrance of men walking, tremble and ſhake, as about the Abby of St. *Omer* in *Flanders* in the Province of *Brabant*, (*die Peel.*)

Propoſition IV.

The Superficies or ſurface of the Lands is continual; but that of the Waters is not ſo.

Indeed the *Superficies* of the *Earth* or *Land* appearing out above the *Waters* is continued, or always the ſame to the *ſuperficies* of the *Channels* of the *Sea*; and this of the *Sea* again is continued to the other parts of the *Land* appearing above. So there is one continual *ſuperficies* of the *Ocean*, the *Baies*, and *Rivers*, but not of all *Waters*; becauſe there are ſome *Lakes*, which are not joyned with the *Ocean* in the *ſuperficies*, as the *Lake Parime*, and the *Caſpian Sea*.

One continual ſuperficies of the Ocean, Bays, and Rivers.

Propoſition V.

It is certain how, or in what manner the parts of the Earth, which are removed from the ſurface, that is, from our habitation towards the Center.

Some men think, that the *Water* is in the bottom about the *Center* of the *Earth*: but it is moſt likely true, that the *Earth* occupies that place. *Gilbert* an *Engliſh* man is of opinion, that the body of the *Earth* within, is nothing elſe but a moſt hard *Loadſtone*; but that thoſe parts to which men have admittance by digging, and in which *Herbs* grow and we alſo live, are as it were the ſhell or cruſt of the *Earth*, wherein continual generations and corruptions are made.

The body of the *Earth* within (according to *Gilbert*, an *Engliſh* man) is a hard *Loadſtone*.

* *Carteſius* his Opinion is not much different from this, who thinketh, that there are three *Regions* or *Parts* of divers ſubſtance in the body of the *Earth*. The moſt inward *Region* of the *Earth* he deemeth to be about the *Center* thereof; the ſecond he judgeth to be thick and dusky, of very ſmall parts; the third he thinketh (wherein Men are employed) to be made up of little parcels, not well cleaving together.

* See Fig. But *Carteſius* is of a different opinion. See Scheme.

But indeed touching this thing, there can ſcarcely any certainty be affirmed. It is manifeſt by the *hot-Baths*, that in very many places under the Earth, *fire* and *fumes* are lifted up from *Sulphur*.

Propoſition VI.

The conſiſtency or ſtanding, and faſt cleaving together of the Earth, is from Salt.

The *Artificial* reſolving of the Parts of the *Earth* ſheweth, that in all *Earths* may be found a certain kind of *Salt*, and ſo much the more: as the harder the body is, (a few *Oily* ones being excepted;) as in *Mettals*, *Stones*, &c. and that the concretion or hard growing together of all things is by

In all kinds of *Earths* may be found a certain kind of Salt.

by reaſon of *ſalt*, is manifeſt by *ſtones*, which we may by Art make very hard with *ſalt*; but if you ſeparate the *ſalt* from the *earth*, ſhe will no longer cleave or ſtick together, but will be a *powder*; neither can it be reduced to hardneſs without the admixtion of *ſalt* thereto.

Propoſition VII.

The kinds of Earths are divers ways mixed together in the Earth.

Thus in *Mines* are found ſmall pieces of *Gold*, *Silver*, *Lead*, &c. not heaped together, and joyned apart from others, but both mixed among themſelves, and alſo with unprofitable *earth*, according to the leaſt parts, that *Artificers* not at the firſt ſight, but by divers ſigns do find out what may be contained in any *Metalline earth*. In the ſame manner in the *Fields*, *ſand* is mixed with *clay* or *loam*, *lime*, *ſalt*, &c. When as on a certain time at *Amſterdam* for making a *Well*, the *earth* was digged out, even to the depth of 232 foot; theſe ſorts of *earth* were ſhewed to the beholders, *viz.* of *Garden-earth* 7 foot, of *Black-earth* fitting for *fire*, which is called *Peat*, 9 foot, of *Soft-clay* 9 foot, of *Sand* 8 foot, of *Earth* 4 foot, of *Clay* 10 foot, of *Earth* 4 foot, of *Sand* upon which the *Houſes* of *Amſterdam* are wont to be rammed and paved 10 foot, of *Clay* 2 foot, of *White-loam* 4 foot, of *Dry-earth* 5 foot, of *muddy* 1 foot, of *Sand* 14 foot, of *Sandy-clay* 3 foot, of *Sand* mixt with *Clay* 5 foot, of *Sand* mixt with *Sea-fiſh ſhells* 4 foot, then a bottom of *Clay* to the depth of 102 foot, and laſtly of *loam* 31 foot, where the digging ceaſed, and they came to *Water*. The Figure of which ſee among the Schemes.

Of Metals found in Mines.

Of the different ſorts of Earths, as did appear by the Well digged at *Amſterdam*.

Propoſition VIII.

The Cavities of the Earth, and as well the outward diſpoſition thereof, and the poſition of its parts, are not perpetually the ſame, but are at divers times divers.

Indeed not only the *Water* of the *Sea* maketh divers changes and ruins in the parts of the *earth*; whilſt certain holes are ſtopt up, ſome are made more broad: but alſo *Spirits* and *Sulphury Subſtances* lying hid here and there in the *earth*, when they begin to encreaſe, and to be reſolved into *Vapours*, do impetuouſly ſhake and thruſt forwards the parts of the *earth*, as it is manifeſt by *Earthquakes*. And it is likely that ſuch like motions are made in the interiour parts and *bowels* of the *earth*, the greateſt part of which we feel not, neither perceive.

The water of the Sea maketh divers changes and ruins in the earth, where likewiſe lye hid Spirits and Salphureous Subſtances.

But we will ſpeak of the mutual changing of the *water* and *earth* in the *Superficies* of the *earth*, in the eighteenth *Chapter*.

The

The *Earth* is divided into *Land* and *Waters*. The Superficies of the Earth extant out of the Water by the Interflux of the Sea, is distinguished into these four parts,

1. Into great *Continents* or great *Islands*, of which four are reckoned by us,
   - 1. The Old World; whose parts are *Asia*, *Africa*, and *Europe*. The bounds of this Continent are: On the North, the *Frozen* and *Tartarian* Ocean. On the East, the *Pacifick* and *Indian* Ocean. On the South, the Southern Ocean. On the West the *Atlantick* Ocean.
   - 2. The New World, or *America*, whose parts are *Meridionalis*, *Septentrionalis*. The bounds of it are: On the North, *Davis Streights*. On the East, the *Atlantick* Ocean. On the South, the *Pacifick* Ocean. On the West, the *Streights* of *Magellan*.
   - 3. The Polary North-land, or *Greenland*, is every where encompassed by the Sea and *Streights*.
   - 4. The South-land, and Land of *Magellan*, yet undiscovered.
2. Into *Peninsulas*, or *Chersonesus*, which are parts of those Continents,
   - Round, whose Latitude and Longitude are equal about: *Africa* it self; *Peloponesus*, the *Chersonesus* of *Grecia*; *Chersonesus Taurica*, or *Tartaria Precopensis*; *Cambaja*.
   - Long, among which are: The *Chersonesus* of *Malacca*, adjoyning to *India*; *Cimbrica* or *Jutland*, adhering to *Holsatia*; *Borea* adjoyning to *Tartaria*; The North and South parts of *America*; *California*; *Jucatan*; The *Chersonesus* of *Thracia*; *Nova Francia*; *Ionia*, *Cindensis*, *Mindensis*.
   - Of Affinity to *Peninsulas*: *Italy*, *Greece*, *Acaia*, *Spain*, *Norway*, *Sweden*, *Lapland*, *Asia minor*, *Arabia*, *Beach* a Region of *Magellan*, and *New Guiney*, *Indostan*, *Cochinchina*, *New-England*, *Monomotapa*, *Camboia*.
3. *Islands*, which may be considered in four sorts, *viz.*
   - Great, as: *England*, *Japan*, *Island*, *Canada*, *Sumatra*, *Madagascar*, *Borneo*, *Nova Zembla*, *California*.
   - Indifferent, as: *Sicilia*, *Ireland*, *Hispaniola*, *Cuba*, *Java Major*, *Celebes*, *Creet*, *Luconia*, *Sardinia*, *Friesland*, *Terra Nova*, *Mindanoa*, *Ceilan*.
   - Small, as: *Gilolo*, *Amboina*, *Timor*, *Corsica*, *Majorca*, *Cyprus*, *Negropont*, *Sealand*, *Jamaica*.
   - The very small ones, in which we consider: 1. The more famous, *Solitaria*, *Rhodes*, *Malta*, *Lemnos*, *Helena*, St. *Thomas*. 2. A knot or heap of *Isles* together, as: The *Canary Isles*, The *Flandrian* or *Caribbe Isles*, The *Hesperides*, Those of the *Gulph* of *Mexico*, Of *Maldives*, Of *Japan*, About *Madagascar*, The *Moluccoes* and *Isles* of *Banda*, The *Philippine Isles*, The *Isles* of *Theeves*, The *Isles* in the *Ægean Sea*, The *Isles* about *England*, The *Isles* of *Solomon*.
4. The *Isthmuses*,
   - Between *Egypt* and *Arabia*, or *Africa* and *Asia*.
   - That of *Corinth* between *Peloponesus* and *Achaia*.
   - The *Isthmus* of *Panama* or *America* the longest of all.
   - Between *Jutland* and *Holsatia*.
   - Between *Malacca* and *India*.

OF

OF

Absolute Geography.

SECT. III.

Wherein the constitution of the* Land, *or the dry part of the Earth, in four Chapters is declared.

CHAP. VIII.

Concerning the natural division of the parts of the Earth, made from the Ocean, flowing round about it.

THE things which in this *Chapter* we shall deliver concerning the *division* of the *Earth*, and in the fifteenth *Chapter*, we shall teach touching the *division* of the *Sea*, will greatly facilitate the young *Student* in the understanding the distinction of the *surface* and *parts* of the *Earth*; and to fix them the faster in the memory: they are carefully and fully to be read, and to be compared with the *Terrestrial Artificial Globe* and *Maps*.

Proposition I.

Of parts of the Earth covered, and of parts not covered with water.

A certain portion of *Earth* is covered with *Water*, and a certain part stands out above the Surface of the *Water*; but yet there are some parts which at some time are covered with *Waters*, and some parts are free from them and conspicuous, as many *Islands* by *Norway*, *Scotland*, and other *Countries*: Add to these the *beds* or *shelves* of *Sand* and *Seashores*. But seeing these parts are so small, we take no account of them at present; neither will we move that Question here, Whether the *Land* takes up the greater part of the *Superficies* of the *Earth*, or whether the *Water*? We will treat of this briefly in the eighteenth *Chapter*. Now we will consider the part standing up, or extant above the *Waters*, and we will call it *Lands* or *Islands*.

Pro-

Proposition II.

The Earth standing out above the waters, not one but many Lands: of which may be five sorts.

The *Land* or *Earth* standing out above the *Waters* is not one, and continual, but many *Lands* divided and disjoyned from one another by the *Water* flowing in between them. We will make five differences of them, to wit, 1. *The greatest Lands or Islands*; 2. *The great ones*; 3. *The mean ones*; 4. *The little ones*; and 5. *The least ones*. We will treat of the cause and original of these *Lands* extant or above the *Waters*, or of the *Islands*, in the eighteenth *Chapter*; for there will be a more commodious place to treat of this Matter or Subject.

All Lands extant above the waters may be called Islands.

But all *Lands* extant above the *Waters* were to be called *Islands*, seeing that an *Island* is no other thing then a *Land* begirt with *Waters*; yet the common use of speaking hath taken away from the greatest *Lands* this name, because that they are so great, and of such a huge tract and continuance, that the *Circuit* of the *Water* is thereby the less to be perceived. Insomuch that they are usually called the *firm Land*, and also great *Continents*. And indeed by reason of their vast bulk and greatness, unto which the *magnitude* of other *Islands* being compared, is small, they deserve this peculiar name; therefore we will also call them *firm Lands* and *great Continents*.

Proposition III.

The firm Lands four.

The greatest *Lands*, *Continents*, or *Islands* (not contending with any about their name) are four.

First, the *Old World*; Secondly, the *New World* or *America*; Thirdly, the *Polar Land Artick*, or *Artick World*; and Fourthly, the *South-Land* or *Magellanick Land*.

The old world most famous, with its bounds, &c.

The *Old World*, the most famous of those four, and only known of the *Ancients*, which we inhabit, is commonly divided by the *Sea* into two parts, but joyned together by an *Isthmus*, or narrow *neck* of *Land*; one whereof is *Africa*, and the other *Asia* and *Europe*. It is invironed by the *Ocean* in this manner: from the East by the *Chinean Ocean* and the *Pacifick Sea*: from the South by the *Indian Ocean* and *Æthiopick Sea*: from the West by the *Atlantick Sea*: and from the North by the *Frozen* or *North Sea*, the *White Sea* and *Tartarian Ocean*.

Africa divided from *Asia* and *Europe*.

The *division* of this *Continent* of which we have spoken, is made by the *Mediterranean Sea* and the *Arabick Bay* or *Red-sea*. For the distance of the *Bays*, that is the *Latitude* or breadth of the intercedent Tract, is not greater then about 30 miles, if which were away, *Africa* would make a peculiar firm Land, and would increase the number.

The distance of the old world from the new.

The distance of the *Old World* towards the East, is but a very little space from the *New World* or *America*, about the *Streight* of *Anian*, if only this be existent in the Universe of Nature. And the distance of *Europe* from *America* is also very little between *Norway* and *Newfoundland*. Also the *Old World* is but a very small distance from the *Pole Artick-land* about the *Streight* of *Waigats*, from the *South Polar* or *Magellan* about *New Guiney*.

The new world, with its bounds, &c.

The *New World* or *America* is thus begirt by the *Ocean*; On the East by the *Atlantick Sea*: On the South by the *Magellanick Streight*; On the West by the *Pacifick Sea*; and on the North by a *Sea* unknown or uncertain, except *Davis Streight*.

This *World* also wants but little, but that it may be cut into two *Islands*, to wit, at *Panama* and *Nombre de Dios*, where the confluence of the *Pacifick* and *Atlantick Ocean* is by a small Tract of *earth* intercepted. It is distant from the *Old World* a very little space, as before noted.

The Polar Artick and South Land, with its bounds, &c.

The *Polar Artick*, and the *South* or *Austral Land*, are begirt round with the *Sea*; the first with the *North Sea*, whose parts are the *Streights* of *Davis*, *Waigats*, and *Anian*. This *South-land* with the *Pacifick Sea*, *Indian Ocean*, and *Magellanick Streight*.

The

The *Polar Artick Land* hath a very little distance at the *Streight* of *Waigats* from the *Old World*: from *America* at the *Streight* of *Davis*. But it is removed from the *South-land* by a huge space.

The *Polar Austral*, or rather the *South-land*, is very nigh to the *Old World* at the running out Tract of *New Guiney*; as also to *America*, at the *Streight* of *Magellan*.

But concerning the *South-land*, only we have assuredly discovered, that it is round about environed with the *Sea*, and is separated from the rest. Concerning the rest of the *Lands*, to wit, the *Old World*, *America*, and the *Polar Artick World*, the matter and discovery is not yet certain, whether they be round about begirt by the *Sea*, and separated from one another: but yet it is very likely they are so, by reason of divers *Bays* and *Entrances* of *Straits* running within the Earth. The *South-land* only as yet is fully sailed about; this could not be hitherto performed in the rest. For the *Old World* as yet hath not been sailed round beyond *Waigats Streight*, although the whole Western, Southern, Eastern shore hath been viewed, and that but a little part of the North shore remaineth to be discovered. *America* hath been sailed round, only part of her Septentrional shore being excepted, by reason of the uncertainty of the *Streights* or *narrow Seas*. Thus have we declared the placing of the greatest *Islands* or *Continents*.

Proposition IV.

Ten great Islands.

We reckon up ten great *Islands* on the Surface of the *Land*, which are these following:

1. *Britain*, comprehending *England* and *Scotland*; it is esteemed the greatest of all *Islands* which are commonly so called, those being excluded which in the foregoing *Proposition* we have related at large.
2. *Japan*, which in *Maps* and *Globes* hath a lesser magnitude than it ought to have: for they which have been there affirm, that it is as great, if not greater than *Britain*.
3. *Luconia*, one of the *Philippine* Isles, which also from its Metropolitan Town is called *Manilha*.
4. *Madagascar* or St. *Laurence*, seated on the Eastern shore of *Africa*.
5. *Sumatra*, one of the *Indian* Isles.
6. *Borneo*, not far from *Sumatra*.
7. *Island*, not far from *Norway*.
8. *Newfoundland*, nigh unto *Canada*.
9. Between *Davis Streight* and *Hudsons Streight* in the Northern Ocean, lyeth a great Island about the *Polar Land*, which according to *Visher's Universal Tables*, is in form round.
10. *Nova Zembla*, nigh unto *Russia*.

To these is *California* to be also numbred, if that be an Island, which it is esteemed to be, and not a part of *America*.

Proposition V.

We number up ten mean Islands on the Surface of the Earth, viz.

1. *Java*, one of the *Indian* Isles.
2. *Cuba*, nigh unto *Hispaniola*.
3. *Hispaniola*.
4. *Ireland*, nigh unto *England*.
5. *Crete* or *Candia*, not far from *Greece*.
6. *Sicily*, nigh unto *Italy*.
7. *Ceylan*, one of the *Indian* Isles.
8. *Mindanao*, one of the *Philippine* Isles.
9. *Sardinia*, seated in the *Mediterranean Sea*.
10. *Celebes* in the *Indian* Ocean.

To these may be numbred *Friezland*, an Isle not far from *Island*.

Proposition VI.

Ten little Isles. We will also number ten little Islands on the Surface of the Earth, to wit;

1. *Gilolo*, one of the *Indian* Isles.
2. *Amboina*, not far from *Gilolo*.
3. *Timor*, one of the *Indian* Isles.
4. *Jamaica* in the *Bay* of *Mexico*.
5. *Sealand* in *Denmark*.
6. *Corsica*, seated in the *Mediterranean Sea*.
7. *Eubœa*, now *Negropont*, seated in the *Mediterranean Sea*,
8. *Majorca*, nigh unto *Spain*.
9. *Cyprus*.
10. *Isabella* in the *Pacifick* Ocean.

There are more Islands which may be reduced to this rank, but we shall refer them to the last order of them, as more commodious.

Proposition VII.

The least Isles. *Of the least Islands there is almost an innumerable multitude on the Surface of the Earth; among which these following deserve a peculiar consideration: First, the famous Solitary Islands; Secondly, those which are found in great numbers in some Tract of the Ocean, and for their Neighbourhood are comprehended under one name.*

We shall term them in general, a body or fry of Islands, because we are left destitute of a more fitting name. The Tract of *Sea* wherein these Isles lye, is called the *Archipelago*. The notable *Solitary Islands* are in the *Mediterranean Sea*, *Rhodes*, *Malta*, *Ivisa*, *Minorca*, *Chios*, *Cephalonia*, &c.

In the *Atlantick Ocean* between *Africa* and *Brazile*, lieth the Island of St. *Helen*, where also the Island of the *Ascension*, the Isle of St. *Thomas*, is placed in the very *Equator*.

The Island *Madera* over against the *Gaditane Streight*.

Zocotora, seated before the mouth of the *Arabian Bay*.

Gothland in the *Baltick Sea*.

Among the notable *Solitary Isles*, those are also worthy of remembrance which swim on the *waters*, of which see *Chapter* eighteenth.

Proposition VIII.

The lesser Isles. *There are fifteen fries or files of the least Islands numbred on the Surface of the Earth; to wit,*

1. The *Canary Islands* in the *Atlantick Sea*.
2. The Isles of *Azores* in the Northern Sea.
3. The Islands of *Hesperides*, or the *Green Islands*, over against *Cape Verd*.
4. The Islands of *Maldives* in *Indian* Ocean.
5. The *Lucar Islands* between *Florida* and *Cuba*, nigh unto *America*.
6. The *Princes Islands* between *Hispaniola* and *America*, to which I refer and reduce all the least Islands seated in the *Bay* of *Mexico*.
7. The *Comercan Isles* lying before *Hispaniola*.
8. The *Mascarenian Islands* between *Madagascar* and *Africa*.
9. The *Molucco Islands*, seated in the *Indian* Ocean.
10. The *Philippine Islands* in the *Pacifick* Ocean.
11. The *Ægean Islands*.
12. The *Japonian Isles*.
13. The Islands of *Solomon* in the *Pacifick Sea*.
14. The Isles of *Theeves* in the *Archipelago* of St. *Lazarus*.
15. The Isles of *Banda* nigh unto *Java*.

16. The

16. The Islands scituate near *England* and *Scotland*; as the *Hebrides*, *Orcades*, *Sourlings*, *Sporades*, &c.
17. The Islands between the *Magellanick Streight* and the *Streight Le Maire*.

Other Isles may be reckoned. Here I do not reckon to these those Islands which lye close on the shore of some *Continents* in great numbers, as on the *Coast* of *China*, *Norway*, *Brazile*, *Davises Streight*, &c.

Unto this rank also the Islands in great *Rivers* are to be referred and marshalled, as such as are found in the River *Nile*, in the River of St. *Laurence* of *Canada*, in the River *Wolga*, and in some other Rivers; as also those which are in certain *Lakes*, as in the *Lake Zembre*, a *Lake* in *Africa*; in *South America*, where the *Islands* of *Lead* are scituate in a *Lake*, &c. But all (or most of) these Isles, especially these aforegoing, together with several others, I have largely treated of in the *Geographical Description* of the four Parts of the World in their fit places, to which I refer the Reader.

Proposition IX.

The Parts of all Lands or Islands are not of the same shape or figure, but are unlike. The more famous differences of these are a Peninsula and an Isthmus.

A Peninsula. A *Peninsula* or *Chersonese*, that is, such a Tract of *Land* that is almost encompassed by the *Sea*, except at one only narrow place, where with a strait neck of Land, (called an *Isthmus*) it is knit to the *Main Land*.

An Isthmus. An *Isthmus* is that narrow or strait neck of *Land* that couples and joyns the *Peninsula* to the *Continent* or *Main-land*, and that by which we pass out of one broad *Land* into another.

Of Lands which are (or may be termd) Peninsula's. The *Peninsula's*, *Chersonesusses*, or *Chersoneses*, that is, running out Lands, are these following, to wit; 1. *Italy*, 2. *Spain*, 3. Part of *England*, 4. All *Greece* and *Macedonia*, 5. *Norway* and *Swedeland*, with *Lapland*, 6. *Asia minor*, 7. *India*, 8. *Camboia*, 9. *New Guiney* of the *South-land*, 10. *Beach*, a Country of the same Land, 11. Part of *Virginia* and *New-England*, 12. The *Tongue of Africa*, &c.

Proposition X.

Other Lands termed Peninsula's. We will number up further fourteen *Peninsula's* or *Chersoneses*; and these we will divide into longish ones, and somewhat round ones.

The Chersonesses of the Ancients. The longish ones are, first, the *Golden Chersonese* of the Ancients, now called the *Malaccan Chersonese*, and joyns to the *Indies*.

2. The *Cymbrick Chersonese*, now called *Jutland*, adjoyning to *Holsatia*.
3. *California*, on the Western side of *North America*, near the Sea *Vermejo*. But late Observations report it to be an *Island*.
4. *New France*, on the Eastern side of *North America*.
5. The *Yucatan Chersonese* in the *Bay* of *Mexico*.
6. The *Thracian Chersonese* on the *Hellespont*.
7. The *Cassandrian Chersonese* by the *Bay* of *Thessalonica* in the *Grecian Sea*. There are also certain *Peninsula's* less celebrious, of the *lesser Asia*, to wit, *Ionia* or the *Smyrnenstian Peninsule*; 2. The *Cnidensian*, or the *Countrey* of *Doris*; and 3. The *Miudensian Peninsula's*.

Concerning *Corea*, it is doubtful whether it be a compleat *Island* or a *Peninsula*. Some *Maps* joyn it to *Tartary*, some again begirt it round with the *Sea*: yet notwithstanding the latest Observations make it a *Peninsule*.

The somewhat round Peninsula's *are*,

1. *Africa* her self, a huge part of the *Old World*, is such an one: it is environed with the *Mediterranean Sea*, the *Atlantick Ocean*, the *Æthiopick*, *Indian* and *Red-sea*: It sticketh fast to *Asia* by a narrow Tract of Land at *Egypt*.

2. Three parts of *America*, to wit, *Mexican* and *Peru* ſtick faſt together at *Panama* by a narrow paſſage of the Earth.
3. *Peloponneſus*, now called the *Morea*, being part of *Greece*.
4. *Taurick Cherſoneſe*, or *Peninſula* in the *Euxine Sea*, and the mouth of the *Fen Mæotis*, now called the *Precopenſian Tartary*.
5. *Cambaia* in *India*.

Propoſition XI.

Of the chief *Peninſula's*.

We reckon as many *Iſthmuſſes* as *Peninſula's*; the more famous are five in number.
1. The *Iſthmus* between *Egypt* and *Aſia*, whereby *Africa* joyneth to *Aſia*.
2. The *Corinthian Iſthmus* between *Peloponneſus* and *Greece*.
3. The *Panamenſian Iſthmus* between *Mexico*, *America*, and *Peruvia*.
4. The *Iſthmus* between the *Cherſoneſus Aurea*, or *Golden Cherſoneſus*, and the *Indies*.
5. The *Iſthmus* of the *Taurick Cherſoneſe*.

CHAP. IX.

Of Mountains and Hills in General.

Of Mountains and Hills.

TOuching *Mountains*, very many things worthy to be known in *Geography* will here occur and meet us, partly becauſe they ſeem to hinder the roundneſs of the *Earth*, and partly becauſe divers things amongſt renowned Authors are here delivered concerning them.

Propoſition I.

But a *Mountain* or *Hill* is ſaid to be a part of the *Earth* riſing aloft, which if it be leſſer, is called a *Hillock* or *Clift*.

Of Promontories and Rocks.

Alſo a *Promontory* is ſaid to be a *Hill*, or *Mountain* running out at length into the *Sea*. *Rocks* are called parts jutting or appearing forth in the *Sea*, or alſo ariſing up out of huge ſtony Bulks or Bodies. But it muſt be generally known, that the parts of the *Earth* which appear plain, are not all of the ſame height, but ſome are ſunk lower, eſpecially at or near the Sea ſhores, inſomuch as the height encreaſeth from *Maritine places*, or ſuch as abutt upon the *Sea*, even to the *Inland Regions*. This alſo is proved by the *Fountains* and *flowing Streams* of *Rivers*: For ſeeing that that part of the *Earth*, to which the *water* floweth, is lower than that from which it floweth, and that the *Fountain-heads* and *Springs* of *Rivers* are ſeldom in the *Inland places*, and ſuch as are far remote from the *Sea*: It is clearly manifeſt thereby, that the *Inland places* are more elevated than thoſe adjoyning to the *Sea Coaſts*. So *Bohemia* is higher then *Holſatia*; which is perceived by the ſtreaming courſe of the River *Elbe*, which floweth from *Bohemia* to *Holſatia*. In like manner we take apparent *Signs* and *Arguments* of the greater height of *Inland places*, from the Rivers *Danubius*, *Viſurgis*, *Rhene*, *Moſa*, &c. The *Swiſſers* and *Rhetians* Countries are judged by ſome men to be the higheſt of all *Europe*, becauſe the Rivers *Rhene*, *Roan*, and the greater *Danow* do flow and ſtream down from thence. Moreover, look how great the declivity or bearing downwards of the *Rivers* are, ſo great is the height of the *Inland places* above the *Maritine places*.

Inland places higher than thoſe near the Sea-coaſts.

Pro-

Propoſition II.

To finde out the height of a Mountain by Geodeſie *or* Land-meaſuring, *commonly called* Surveying.

This is performed in the ſame manner which we uſe in the ſearching out the height of *Towers*, if ſo be the top of the *Mountain* or *Hill* is remarkable by ſome peculiar ſign.

For the finding out the height of a Mountain by *Geodeſie*.

Let A B be the *Mountains* height, A the *foot*, B the conſpicuous *head* thereof. We will take the *line* F C by a mean diſtance from it, ſo that neither of the *Angles* A F C, A C F may be made very acute, but may in a manner be equal. Then let the *Angles* A F C, A C F be obſerved by a collimation, or levelling with winking be made to B, and theſe being ſubtracted to 180 *degrees*, the remaining *degrees* ſhall ſhew forth the *Angle* C A F. After that the diſtance of the ſtations of F C is exquiſitely to be meaſured; and let it be wrought; As the ſign of the *Angle* F A C to the ſign of the *Angle* C F A (or F C A, if you would take F A) ſo F C to A C, the diſtance of the *Mountain* from C. Then the Inſtrument being hanged up, or placed upright in C, and levelling with the *Eye* to B, let the *Angle* B C A be taken. And becauſe the *Triangle* C A B is *ſtrait angled*, to wit, the *Angle* B A C is *ſtrait*, therefore alſo the *Angle* A B C of 90 *degrees* ſhall be given.

See Scheme.

Let it therefore be wrought by the *Triangle* BAC: As the whole *ſign* 10000000 to the *Tangent* of the *Angle* B C A, ſo the diſtance A C to the perpendicular height of the *Mountain* A B.

The height of the Mountain *Olympus* meaſured by *Xenagoras*.

For Example, Let us put it, that *Xenagoras* the Son of *Eumelus* uſed this manner or way of Meaſuring in finding out and knowing the height of the Mountain *Olympus*, and to have found the *Angle* A F C to be 88 *degrees*, 29 *minutes*: but the *Angle* A C F 57 *degrees*, 30 *minutes*. Therefore C A F ſhall be 34 *degrees*, 13 *minutes*; and by *meaſure* he found F C to be 400 *Grecian foot*, or two third parts of one *ſtadium*. Therefore it ſhall be; As the *ſign* of the *Angle* C A F 34 *degrees* 13 *minutes*, to the *ſign* of the *Angle* A C F 57 *degrees* 13 *minutes*: So C F 400; the foot of the *Mountain* to the diſtance F A: to wit, as 56226 to 84339, ſo is 400 to 600; therefore F A is 600 *foot*. Furthermore, let the *Angle* B F A be found 84 *degrees* 23 *minutes*. It ſhall be in the *Triangle* F A B, as 100000 to the *Tangent* of the *Angle* B F A 1016000: ſo 600 to 6096 *foot* for A B, the height of the Mountain *Olympus*: but 600 *foot* make a *ſtadium*. Therefore 6096 being divided by 600, there are found 10 *ſtadiums*, and 96 *Greek feet* for the height of the Mountain *Olympus*, juſt ſo much as *Xenagoras* found it to be. But theſe *ſtadiums* make $\frac{1}{4}$ of a *German mile* with $\frac{1}{12}$, or about $\frac{1}{16}$.

The Mountain *Olympus* ſaid to be very high by *Ariſtotle*.

Ariſtotle, with many other Writers, affirms, that the height of the Mountain *Olympus* is ſo great, that the top thereof feels no motion of the *Air*, or *ſhowers of Rain*, and alſo that it is elevated above the ſecond Region of the *Air*: and the *Ancients* gathered that, by the *Aſhes* left thereon, being never moved thence by any *Wind*; and by the draughts and forms of *Letters*, being no whit conſumed, but found there after divers years, freſh, and as they were there drawn at the firſt.

It is to be noted, that in divers places the height of the *Mountain* is alſo diverſe; therefore the conſequence availeth not. The *Clouds* do likewiſe cover this *Mountain*, therefore it is as high; for indeed in the Northern parts and Coaſts of the World, the *Clouds* are a great deal lower.

There is alſo another manner of Meaſuring in *plane*, the *Mountains* by two *ſtadiums* in the ſame *ſtrait line* with the Mountain; but it is prone to errour, by reaſon of the ſmall difference of the *Angles*.

Another way to find the height of a Mountain.

Yet by one height known; as for example, by a *Tower*, whoſe height is known, and the diſtance from the *Mountain*, we ſhall more accurately gain the height of the Mountain, *viz.* if we ſuppoſe F to be the *Tower* 300 *foot* high, and on the top thereof, or in ſome commodious place, the *Angle* B F P

See Scheme.

be

be observed to be 83 *degrees* 30 *minutes*. *P B* shall be found to be 5896 *foot*, to whom *B A* the height of the *Tower* must be added.

Proposition III.

The height of the seen Mountain being given or known, to find out Geodetically, *or by Land-measuring, how great distance we are from it, if we have either a Geometrical Instrument or* Radius, *or* Altimetrical Scale *with us, that is to say, a Height-measuring Scale.*

Another way to find the height of a Mountain.

Let *A B* be again the height of the *Mountain*, being now known by the descriptions of the other 10 *stadiums*, and 96 *Greek feet*, or 6096 *feet*. Let *F* be our place, and let us desire to know the distance *F A*. Let the *Angle B F A* be taken by a *Geometrical Instrument* or *Quadrant*; let it be for example 48 *degrees* 23 *minutes*: Therefore the *Triangle* strait *Angled B A F*, when three are known, it shall be, As the whole *sign* to the *Tangent* of the *Angle A B F*, 5 *degrees* 37 *minutes*: So *B A* the known height shall be to the demanded *A F*.

See Scheme.

As 100000 are to 9234, so 6096 to 600 *foot*, or one *stadium*: Therefore at so great a distance, which is *F A*, we are from the *Mountain*. If we use a *Land-measuring Quadrant*, or *Square*, or *Radius*, we shall not then need the *Canon* of *signs*, which is manifest by the declaration and explication of the *Instruments*; but yet the calculation or computation becomes thereby not so accurate, by reason of the want of true proportion.

Note, In these two *Problems* I have added *Geodetically*, because the manner of *measuring* is otherwise, when we use a *Semidiameter*, or *Periphery* of the *Earth*, as we shall now propose: For in the former we have taken the distance *F A* as a *strait line*, because there is but a small difference between that and a *crooked line*.

Proposition IV.

A distance being given, from whose term or extreamest boundary the top of the Mountain is first seen, to find thereby the height of the Mountain by Geography.

A distance of a Mountain being given, to find the height. See Scheme.

Let us take the most high Mountain of *Teneriff*, called *El Pico*, or the *Pike*, and let *A B C D F* be the *periphery* of the *Earth*, and indeed the *Meridian* of that Mountain: Let the *Center* be *R*, the *Mountain* it self *A B*; let from *B* a *strait Tangent-line* be drawn to the *periphery B F*. *F* then shall be the furthermost or first *point*, from which the top of the Mountain *B* shall be seen: let *F R* be drawn.

But some Mariners do testifie, that when they are four *degrees* distant from it in the *Meridian*, they can descry the top of that Mountain. Therefore the *Arch A F* shall be four *degrees*: Let us therefore suppose that this Relation of our *Seamen* is true, and that the first visive ray *B F* come directly from the top of the Mountain *B*; and let us search out, how great the height of the Mountain may be, if the matter were so. The *Angle B F R* is strait, and because *F A* is four *degrees*, therefore also the *Angle B R F* is four *degrees*, and *R F* the half *diameter* of the Earth is known; and in the *Triangle B R F* are the three given, and it shall be,

As the whole *sign* to the *secant* of the *Angle B R F* four *degrees*, so *R F* to *R B*. As 10000000 are to 10024419, so 3440 *Italian* miles *R F*, or 860 *German* miles,) to 3448 *Italian* miles for *R B*: take away thence 3440 for *R A*, and there remains 8 *Italian* miles, or 64 *stadiums*, or two *German* miles for the height of the Mountain *A B*; which is almost incredible, and altogether against the *Ancients* and *Old Geographers*. Therefore it is to be known, that there are two things taken in the *Problem* which are false; first, that that *Radius* or *Ray*, which coming from *B* first strikes the *Eye*, is direct, when as yet

The height of the Mountain *El Pico* in *Tenriff*.

yet by reason of the thickness of the *Air* it is refracted or turned. Indeed from *B* the top of the Hill, there cannot be a *strait line* drawn to *F* (if *F A* be four *degrees*,) but that first it must incur or run upon the Earth; and therefore the top *B* cannot be seen directly in the place of *F*, but by a refracted *Radius*, to wit, *B T F*, which is broken, and indeed the first of the broken rays, which may reach to *F*.

If therefore we suppose, that this refraction brings it to pass, that this Mountain may be sooner seen by one *degree*, than it would be seen, if it were without this Refraction; to wit, with a direct ray *B F* to be seen from three *degrees A F*, the height *A B* shall be found out according to the declared form of five *Italian* miles, or 40 *stadiums*. But because it is also likely (which is the second) that our *Seamen* speak more at large, and not with so accurate a dimension; if we therefore subtract yet half a *degree*, so as we may resolve that it is seen 2½ degrees thence, or 38 *German* miles for *F A*: This I say being put, and our Calculation being ordered as at first, the height of the Mountain *A B* shall be found to be about one *mile*.

If the Mountain may be seen from the distance of two *degrees* (the refraction being set apart) it shall be 2⅔ *Italian* miles high.

But if it can be seen at one *degrees* distance, or 15 *German* miles, it shall be in height half an *Italian* mile, or about 5 *stadiums* high. To this end we add the Table following.

If the height of the *Mountains* be	⅛ mile *Germ.*	¼ mile	½	⅔	¾	⅘	⅚	1
Then it shall be seen from the distance of *miles*	14	18	20	25	26	27½	28	29¼

But all these things are to be understood without Refraction, which for the most part increaseth the seen height of the Mountain, and the distance of the sight; as you may perceive by the description; for the refracted *Radius T F* produced, gives the height *N A*.

Proposition V.

The top of any Mountain *being first seen, whose height is known, to find by* Geography *how great space we are from it.*

The top of a Mountain whose height is known, to find at the first sight its distance. See Scheme.

This is the consequent of the former Proposition, and the solution thereof may be fetch'd from the Table before described: but the Calculation will shew a more accurate solution. Let therefore the known height of the Mountain be *A B*, and let it be seen in *F*, it may please us to know the distance *A F*, *B F* toucheth the *Periphery*. In the *Triangle* strait angled *B F R*, the *Angle F* is is strait, and the two sides *R F*, the half *diameter* of the Earth, and *R B* the same half *diameter* with *A B* are known, which we may put to be half a *German* mile. And because *R F* and *R A* is 860, *R B* shall be 860½: And it may be wrought, As *R B* is to *R F*, so the whole *sign* to the sign of the *Angle R B F*.

In *Rhindlandish feet*
As 860½ to 860, so 10000000 to
As 19609700 to 19598300, so 10000000 to 9994186,
the *sign* 88 *degrees*, 2 *minuees*, 40 for *R B F*.

Therefore *B R F*, that is, the *Arch A F* shall be one *degree*, 55 *minutes*, 20 *seconds*. Therefore from this distance the Mountain shall be seen with *refraction* of *Rays*, if it is half a mile high; to which for the Argument of Refraction we may add eight miles, insomuch that it may be seen at the ordinary distance of 37 miles: But the refraction also varies according to the diverse *Altitude* of the *Sun*, neither is it absent before the rising, or after the setting of the *Sun*. But we will treat more at large concerning this business in the *Chapter* touching the *Air*, and the Third part of this Book, where we shall discourse of the visible *Horizon*.

Proposition

Proposition VI.

The length of the shadow being given, which any mountain casteth, and the height of the Sun being given to that time, to find out the Altitude of the Mountain.

To find out the Altitude of a Mountain by its *shadow*, knowing the height of the Sun.

Of the Mountain *Athos*, its height, &c.

We will propose this *Problem* rather for its Antiquity and pleasantness, than that we think that the Altitude may accurately by the *shadow* be obtained.

Plutarch and *Pliny* have written, that the Mountain *Athos* will cover or hide the sides of the *Lemnian Heifer*, because the Mountain *Athos* scituated on the shore of *Macedonia*, is so highly elevated, that its casts its shadow into the Island *Lemnos*, the *Sun* being in *Cancer*, and indeed into the Market of the City *Myrrhina*, where the boundary or end of the *shadow* was signified by a *Brazen Heifer* there erected, which the *Inhabitants* placed there for the strangness and wonder of the matter: And *Pliny* writeth, that the interval or distance between the Mountain *Athos* and the Isle *Lemnos*, is judged to be 87000 paces, or 87 *Italian* miles. But Writers have not noted the *Altitude* of the *Sun*, according to the shadow thereof: but yet it is likely, that this *shadow* cast from the *Sun* being at the point of setting, or when it began to be hidden from the City *Myrrhina* by the Mountain *Athos*; (for *Athos* standeth Westward from the Isle *Lemnos*;) or when in it, it was hid from the *Vertical point* of *Myrrhina*, which is drawn through the Mountain *Athos*. But although we may put, that the *Sun* was then as it were in the *Horizon* of *Myrrhina* F O, and so that the *Radius* O F passed through the top of the Mountain B, and cast the *shadow* A F, and O F shall be the *Tangent* of the *Periphery*; and because F R is given, and the *Angle* F R B (or by taking the *Triangle* B A F, and F A as a *strait line*) B A shall be found to be eight *stadiums*, the height of the Mountain. But because notwithstanding in this position of the *Sun*, the term or boundary of the shadow cannot be noted, because it is infinite; and besides that, the buildings of the City *Myrrhina* might hinder both the *shadow* and the near *Rays* of the *Sun* near to the shadow: Therefore it is to be determined, that the *Sun* at the least was elevated two *degrees* above the *Horizon* of *Myrrhina*. For example, In S, that the *Angle* S F O be two *degrees*, and the *Radius* of the *Sun* passing through the top of the Mountain T, and ending the shadow in F.

See the Scheme to the fifth Proposition.

Therefore in the *Oblique angled Triangle* R T F, the given *Angle* shall be T F R 92 *degrees*, and F R T is given one *degree* 16 *minutes*: And therefore F T R is 86 *degrees* 45 *minutes*; and the half *diameter* F R is known, 860 *German* miles. Therefore T R shall be found according to the proportion,

As the *sign* of the *Angle* F T R 86 *degrees* 54 *minutes*, to the *sign* of the *Angle* T F R 92 *degrees*: so F R to R T, 860.

Therefore R T shall be 861 *German* miles, and A T the height of the Mountain *Athos*, somewhat above one *German* mile.

If we take the Altitude of the *Sun* one *degree*, the height of the Mountain *Athos* will be found to be 20 *stadiums*.

Yet notwithstanding I esteem the over great distance of *Lemnos* from the Mountain *Athos*, assigned by *Pliny*, to be the cause of the over-great Magnitude arising from the Calculation: For *Sophians Table* of *Greece*, and *Blavius* his *Table* of Modern *Greece*, do only exhibit and allow 55 *Italian* miles, the distance for F A. Therefore the *Angle* F R T shall scarcely be one *degree*, to wit, 55 *minutes*; and the Altitude of the *Sun*, one *degree* 30 *minutes*: and therefore F R T, 87 *degrees* 35 *minutes*; and if it be done in the *Triangle* F R T,

As the *sign* of the *Angle* F R T 87 *degrees* 35 *minutes*, to the *sign* of the *Angle* T R R 91 *degrees* 30 *minutes*; so F R 860 to R T. Or in the *Triangle* T F A *strait angled* to A, the *Angle* T F A shall be one *degree* 30 *minutes*; and F A is assumed as the strait or right of 55 miles. The Altitude A T shall be found according to this Proportion: As the whole *sign* to the *Tangent* of the *Angle* T F A, one *degree* 30 *minutes*: So F A 55 *miles*, to A T the height of the *Mountain*.

Here

Here also is the *Problem* to be answered, *viz.* How the height of any *Mountain* may be found, if it be fully searched out? how much sooner the *Sun* is seen to rise in the top of that Mountain, than at the foot thereof? And contrariwise, if the *Altitude* be given, how, and in what manner this difference of time is to be found out? touching which matter *Aristotle* and *Pliny* have delivered incredible stories, and such as the true Calculation and account do teach to be evidently otherwise. But seeing this cannot be explicated without the solution of another *Problem*, which we have referred to the second part of this Book: therefore we will defer these two *Problems* to the Thirtieth *Chapter*.

Proposition VII.

The Altitude of Mountains hath no sensible proportion to the half diameter of the Earth, or else so little, that it hinders the roundness of the Earth no more, than a pointed note upon the surface of the Artificial Globe.

The height of the Mountains no hindrance to the roundness of the Earth.

For we have shewn that the Mountain of the Island *Teneriff*, called *El Pico de Tayde*, to have no greater Altitude than one *mile*, or at most 1 ½ *mile*. And certainly, Experience can scarcely find out a Mountain higher than that. Seeing therefore the half *diameter* of the *Earth* is 860 *miles*, it shall be the model and account of the greatest height of the Mountains to the half *diameter* of the *Earth*, which is 1 to 860, to wit, of which parts the *half diameter* of the *Earth* or any *Globe* is 360, one of such the greatest height of the *Mountains* shall have. And whereas there are very few Mountains of so great height, but that very many of them scarcely ascend to the fourth part of a *mile*, it is manifest, that they heave or lift up the roundness of the *Earth* no more, than certain ruggednesses in *Globes* made by the hands of Artificers, do disproportion the roundness of those *Globes*. For indeed there is no body in the whole nature of things, that can have an exact *Geometrical roundness*.

Proposition VIII.

Why showers of Rain, Mists, and Snows, are frequent on the tops of Mountains, *when as in the neighbouring Valleys the Air is serene and calm without any such Meteors?*

Showers of Rain, Snow, Mists, &c. on the tops of Mountains, when not in the Valleys.

They which have travelled on the high *Lands* or Mountainous places of *Asia*, *Peruvia*, and other Countries, aver, that it oft falls out, that they which are conversant on the top of *Mountains*, do there feel and find *showers of Rain*, *Snow*, and thick and *foggy Mists*; but descending thence to the *Valleys* lying thereunder, they feel no such thing, but find a clear and calm *Air*. We sometimes observe the same in the Mountains of our own *Country*.

Some say, that the cause of this *Phænomenon* or appearance is, that the *Mountains* attract thither the *Air* and *Clouds*; but they do not declare, by what faculty or power they may do it, and therefore they say nothing to the purpose. It seems to me, that it is done in this manner: The *vapours* and *exhalations*, when as in the middle Region of the *Air*, (in which very many tops of Mountains are) they are condensated into small drops, begin to decline downward. And because the top of Mountains are nearer to those *vapours* and *exhalations* condensated in the middle Region of the *Air*, than the Valleys lying under them; therefore those small drops, which are above those Mountain tops, coming first to the ground, leave a place in the Region of the *Air*, which presently the next small drops do enjoy; because they are forced and thrust forth by others; either by reason of Natures abhorring and shunning of vacuity or emptiness, or because this is the nature of *Water*, that it flows and runs to that place where its flux or flowing first began, or where the place is more low and sunk.

Proposition IX.

Whether the Superficies of a Mountain *be more capacious, than the plane underneath it, upon whom it standeth?*

Of the Superficies of Mountains.

Geometry proves it to be greater; but yet it is another Question, Whether therefore it can sustain the more Men, or bear the greater plenty of Provision? I prove the Affirmative: for although all things placed in a *Mountain* ought to be perpendicular to the under sunk or placed Plane, yet greater store of *Earth* and a greater surface is there.

CHAP. X.

Of the differences and tract of Mountains; *and in special, concerning Burning Mountains.*

Proposition I.

Some Mountains are bounded about with a little space; Others extend themselves out, and march forth at a long reach and trace.

Of Mountains or Hills.

AND these *Mountains* or *Hills* of the later sort are called *tops*, *yokes*, or *chains* of *Mountains* or *Hills*. There are found such like Chains of Mountains or Hills almost in all Countreys in the World, so that they may be judged to be thereby continual, but that small spaces interpose and thrust in themselves; but they march out at length into divers Coasts: some from the North into the South, some from the East into the West, and othersome to Coasts collateral to the *Cardinal points*.

The most famous Chains or Cliffs of Hills are these following.

Of the Hills or Mountains call'd the *Alpes*.

1. The *Alpes*; which separating *Italy* from the neighbouring Countries, extend themselves out by a vast tract of Earth, and do as it were send forth their Arms into other Provinces and Countries, to wit, through *France* to *Spain*, where they are called the *Pyrenean* Hills or Mountains; and to *Rhetia*, where they are called the *Rhetick* Hills; and to *Hungaria*, where they are named the *Hungarian* Mountains, and doubtful ones; then above *Dalmatia*, the *Dalmatian* Hills; and they are stretched out through *Macedonia* to *Thracae* and *Pontus*. But because there cometh in a little space between the *Julian* and *Dalmatian* Hills; therefore some men determine, and make the end of the *Alpes* to be in the *Julian* Mountains. It sendeth out one Arm with continual *chains* and *yokes* of Hills, and with a winding course, like a *crescent*, passing through all *Italy*, and dividing it into two parts, it runneth along even to the *Sicilian Sea*: Neither doth it march forward in one form every where, but in many parts it putteth forth collateral, or side-Companions and fellow Branches, as it also sendeth forth some Mountains styled with several Names, as the Mountain *Massicus*, the Hill *Gaurus*, *Monte di Capua*, or the Mountain of *Capua*, and the burning *Vesuvius*, &c.

2. The

2. The Hills of *Peru* or *Peruviana*, the longest of all others; for they pass through the whole *South America*, even from the *Equator* to the *Magellanick streights*, and do separate the Kingdom of *Peru* from other Provinces, insomuch that the whole tract of this Chain of *Hills* is about 800 *German* miles. And the *heads* or *cliffs* of the Hills are so high, that they are reported to weary Birds in their flight over them: and there is but one only passage over these Hills (which as yet is discovered,) and that very cumbersom. Many of those are covered with perpetual *Snows*, as well in Summer as Winter; and many of them are also wrapt up and involved with the Clouds, and some likewise are elevated beyond the middle Region of the *Air*. Truly it hath hapned, the *Spaniards* sometimes passing out of *Nicaragua* into *Peru*, that many of them, together with their Horses, on the tops of those interposed *Mountains*, have suddenly died, and if they had become stiff with cold Frost, they remained there immovable like standing Images. The cause of which seemeth to have been the want of *Air*, such as our breath or Lungs require. There are also found in these Mountains *Sulphury* and *smoking Hills*.

The Hills of *Peru*.

These Mountains exceeding Cold.

3. There are very many other Mountains between *Peru* and *Brasil*, which also stretch themselves out through the Country of *China* to the *Magellanick streights*, where the high tops of the *Hills* are perpetually hidden with Snows, although they lie under the *Latitude* of 52 *degrees*.

The Hills between *Peru* and *Brasil*.

4. Add to these *Chains* of *Hills*, those of *Canada* and *New England*, and very many others in *North America*, covered with continual *Snow*, although they are less famous.

The Hills of *Canada*, and *New England*.

5. The top of *Taurus*, a Mountain in *Asia*. This was amongst ancient Writers accounted the most noble and greatest *Mountain* of the World. It riseth up in *Asia Minor*, from the *Pamphilian Sea* nigh to the *Chelidonian Islands*, and thence marcheth along through divers *Countries* and great *Kingdoms* under divers Names, from the West into the East, unto *India*, and divideth all *Asia* into two parts, one whereof which looketh to the North is called *Asia* within *Taurus*, and the other which faceth the West is named *Asia* without *Taurus*. It is fenced in on either side with many Companions, amongst which the famous and most notable ones are the greater and the lesser *Anti-Taurus*, which cut and divide the *greater* and *lesser Armenia* into two parts, where *Taurus* it self passeth between *Armenia* and *Mesopotamia*; it sendeth forth many Arms towards the North and South.

The Mountain *Taurus*.

6. The Mountain *Imaus* marcheth forth in form of a *Cross* two ways, as well towards the East and VVest, as towards the North and South. The Northern part is now called *Alkai*. It is stretched out forward towards the South, even to the very ends of the *Indies*, and the fountain heads of the River *Ganges* in length about four hundred *German* Miles. It divideth the *Asian Scythia* into two parts, of which that which looketh on the *west* is called *Scythia* within the Mountain *Imaus*; but that which beholdeth the East, is named *Scythia* without the Mountain *Imaus*.

The Mountain *Imaus*.

7. The top of the Mountain *Caucasus* is stretched out from the North to the South towards *Pontus Euxinus*, from the *Caspian Sea* (to whom it is a neighbour) at the breadth of fifty miles, and to those that sail in the *Caspian Sea*, it is an infallible mark to govern and steer their course by: It reacheth to Mount *Ararat* in *Armenia*, where *Noah*'s Ark rested, which the *Turks* and *Persians* believe to be there kept to this day. But the Mountains of *Ararat* are neighbours to *Taurus*; because all these *Mountains* are contiguous. VVe will speak of the height of *Caucasus* in the Thirtieth *Chapter*.

The Mountain *Caucasus*.

8. The Hill of *China*, which embraceth and comprehends the *Damascian Mountains*, so called by the Ancients towards the VVest, and *Ottorocora* towards the North. This Clift or Chain of *Hills* consisteth of many *Mountains*, not indeed continually yoked together, but here and there affording a passage between them. And the Mountains of *Camboja* seem to be a part of that gang of Hills.

The Hill of *China*.

9. The Hills of *Arabia*, which march forward in a triple rank, of whom the Holy Mount *Sinai* is a part.

The Mountains of *Arabia*.

The Mount *Atlas*.

10. The most famous *Hill*, and which is celebrated with innumerable *figments* of the *Greek Poets*, is Mount *Atlas* in *Africa*. It riseth at the shore of the Western Ocean of *Africa*, and extends it self through all *Africa*, even to the borders of *Egypt*. It hath the *Fountains* and *Springs* of almost all the Rivers of *Africa*; in many places it is full of *Snow* and *Cold*, although it lieth in the *Torrid Zone*.

The Mountains of the *Moon*.

11. The Clift of *Africa* nigh to *Monomotapa*, which is called the *Mountains* of the *Moon*. It compalleth in almost all *Monomotapa*; and the *arms* or *branches* thereof are many, as the Hill *Zeth*, and the *Snowy Mountains*. There are found very many, and in a manner innumerable other *yoaks* or *chains* of *Mountains* in *Africa*, severed and disjoyned by a small space, insomuch that they are almost all contiguous, and seem to be parts of one Chain of Hills.

The *Riphean* Mountains of *Europe*.

12. The *Riphean Mountains* of *Europe*, which are also called the *Obian Hills*; they march on forward from the *White Sea* or *Muscovian Bay*, to the very mouth of the River *Ob*, and the *Muscovites* call them *Weliki Kameypoyas*, that is, the great *Stony Girdle*; because they think that the whole World is girted in with them. There is here another *yoak* of *Hills*, which the *Russians* call *Joegoria*. It beginneth at the Southern boundary of *Tartaria*, and extends it self unto the North *Sea*, and very many *Rivers* rise and spring out of this, *viz.* the Rivers *Wissagda*, *Neem*, *Wissera*, and *Petsora* the greatest of all. Besides a triple *yoak* of *Hills* runneth down betwen *Siberia* and *Russia*, from the North towards the South. One of them the *Russians* call *Cooswinscoy Camen*, whose breadth or passage is two days Journey. To this some *Valleys* coming in betwixt them, is a second bordering, called *Virgins Koy Camen*, also of two days Journey; the third is *Podvins Coy Camen*, the highest of these three *Mountains*, which in many parts throughout the whole year is covered with *Snow* and *Clouds*, and therefore it affordeth a very difficult passage, which is of four days. The City *Vergateria Siberiæ* is nigh unto it.

The Mountains of *Norway* and *Lapland*.

13. The *Mountains* of *Norway* and *Lapland*, which begin from the Southern Promontory of *Norway*, and seperate *Sweden* in part from *Norway*, then in many orders proceed even to the farthest part of *Lapland*, and are distinguished by divers names, as *Fillefiel*, *Dofrefiel*, and the like.

The Mountain *Hercinium* in *Germany*.

14. In *Germany*, the famous Mountain *Hercinium* encompassing all *Bohemia*, and by various windings extending it self into divers Regions, and that also by various names. In the *Dutchy* of *Brunswick* it retaineth its Ancient appellation, the Mountain *Bructerus* is part of it.

Proposition II.

In most Islands, and in the procurrent parts of the Continent, the Mountains are so scituated, that they pass through the middle of the Land, and divide them into two parts.

The division of Lands by Mountains.

So in *Scotland* the Mountain *Grampius*, (called by the Inhabitants *Granbaine*) which extendeth through this Island from the East to the West, and divides it in two equal parts, both which differ not only in the nature of the Soyl, but also in the Inhabitants. So in the Islands of *Sumatra*, *Borneo*, *Luconia*, *Celebes*, *Hispaniola*, *Cuba*, Mountains are found, which arise from the Sea-shore by degrees towards the midst of the Islands unto a very great height.

The Mountain *Gatis*.

So the Mountains *Gatis* pass through the middle procurrent part of *Asia*, which is called *India*: For they arise from the extremities of *Caucasus*, and proceed to the Promontory of *Corus*, vulgarly called *Cabo de Comerino*, from the North to the South, and so divide this procurrent into two parts, whereof that part which is on this side *Gatis* towards the West, is termed the Region of *Malabar*, and the other beyond the Mountain *Gatis* towards the East the Region of *Choromandel*. This very same ridge of Mountains passeth through the

the other part of *India* which is now called *Bengala*, through the Kingdoms of *Pegu*, *Siam*, and the whole *Chersonesus* of *Malacca*.

The Mountains in *Camboja*, *California*, *Corea*.

So also the Mountains of the procurrent of Earth termed *Camboia*: The like Mountains are in the *Peninsula* or *Isle* of *California*, in the procurrent *Africa* from the *Lake Bair* to the *Promontory* of *Good-hope*: In the *Peninsula Corea*, the *Apennine* in *Italy*.

How these Mountains came, whether created with the *Earth* it self, or whether they afterwards sprung from natural Causes, is uncertain.

Proposition III.

Of Mountains famous for their exceeding Altitude.

The Mountain of *El Pico* the highest in the world.

1. *El Pico* in *Teneriff*, esteemed the highest in the whole *World*, whose top is conspicuous at *Sea* 60 *miles*; there is no ascending up it, but in *July* and *August*; by reason that it is covered all the other part of the *Year* with *Snow*, although that *Snow* is never seen in the Island it self, or the adjacent *Canary Isles*. The *Vertex* is manifestly discovered to be advanced above the *Clouds*, seeing that these encompass the middle of the Mountain, and the *Vertex* is beheld to be above this *Cloud*; but because it suffereth *Snow*, thence it is certain that it is not protended beyond the middle *Region* of the *Air*. Three days are required to ascend to the top of this Mountain: for it is not a spiral top, but plain, and the *Air* being serene, and without *Clouds*, one may distinctly discern from it all the other circumjacent *Canary Isles*, of which some are 50 *miles* remote from it. In those two *Months* many Sulphureous stones are brought from the Mountain, and carried in great abundance into *Spain*.

The Mountain *Pico de St. George*.

2. In one of the *Azores* near to the *Isle Fayal*, there is found a Mountain called *Pico de St. George*, whence the *Isle* is called *Pico*. It is reported to have an equal *Altitude* with the *Mountain* of *Teneriff*.

The Mountain *Cordillera*.

3. The Mountain called *Cordillera* in the Southern *America*, separating *Peru* from the other *Provinces*, is said to be of that exceeding height, that it giveth place to no Mountain of the *Earth* for *Altitude*. It extendeth from the *Streights* of *Magellan* to *Panama*.

Mount *Ætna*.

4. *Ætna*, a Mountain in *Sicilia*, from the top of which *fire* is discerned to be ejected in the *Isle* of *Malta*, whence it is supposed to have at the least an intire *mile* in *Altitude*: but in the preceeding *Chapter* we have given a reason of this apparent *Altitude*.

Hecla.

5. *Hecla*, a Mountain of *Island*.

Pico de Adam.

6. *Pico de Adam* in the *Isle* of *Ceilam*.

7. The Mountain *Bructerus* in *Germany* and *Abnoba*.

Figenojamma.

8. The Mountain *Figenojamma* in *Japan*, is supposed to exceed the *Clouds* in *Altitude*.

Caucasus.

9. The Mountain *Caucasus* much celebrated by the Ancients for its great height.

The Mountain *Pelion*.

10. The Mountain *Pelion* in *Macedonia*. *Pliny* saith that *Dicearchus* the *Mathematician*, by the command and expence of some *Kings*, measured the *Altitude* of this Mountain, and found it to be 1250 *paces*, that is, 10 *Studia*, or $\frac{1}{8}$ of a *German mile*. *Geminus* saith that the Mountain *Cyllene* was found by *Dicearchus* to be of the same *Altitude*.

The Mountain *Athos*.

11. The Mountain *Athos* (as *Mela* in *Lib.* 2. *Chap.* 2. relateth) is so elated, that it is believed to rise higher than that *showers* should fall thence. This Opinion received credit, because that the *Ashes* are not washed away from the *Altars* that are on the top of it; but remain in the heap as they were left in. It runneth along with a great broad Ridge into the *Sea*, where it adhereth to the Continent. *Xerxes* making his Expedition against the *Grecians*, dugg it through, and made it Navigable.

Olympus.

12. *Olympus*, a Mountain of *Asia minor*, of which we have spoken in the former *Chapter*.

13. *Casius*,

Cæsius. 13. *Cæsius*, a Mountain in *Asia*, which *Pliny* writeth to be four *miles* in height.

Hæmus. 14. Mount *Hæmus*, which *Martianus Capella* describeth to be 6 *miles* in *Altitude*.

Atlas. 15. *Atlas*, a Mountain in *Africa*, of which we have spoken in the preceeding *Proposition*. The *Poets* feigned this Mountain to be so high, that it upheld *Heaven*, but experience hath found the contrary.

Proposition IV.

The many differences of Mountains.

In the former *Propositions* we have shewed three differences, *viz.*

The differences of Mountains. 1. Some are extended in a long Tract, and some are terminated in a small *Circuit*.

2. Some divide the *Regions* in two parts; others pass through any Tract of the *Regions*.

3. Some are of an exceeding height, some of a mean, and some but low. To these differences these may be added:

4. Some are *Sandy*, some *Rocky*, *Clay* or *Chaulky*.

5. Some include or contain the *Springs* of *Rivers*, whereas others are without them.

6. Some are adorned with *Woods*, and other some destitute of *Trees*.

7. Some are *burning* and *smoaking*, whereas others are without *fires*.

8. Some are rich in *Metals*, and others without them.

9. And some Mountains are covered with *Snow* all the *Year*, whereas others have no *Snow* at all.

Proposition V.

To enumerate the burning Mountains, and those that cast out flames.

Of Vulcan's or burning Mountains. Such Mountains at this day are called *Vulcans*, which Appellation the *Portugal Marines* first introduced, and now are commonly so called; and such are

Mount Ætna. 1. The most famous is *Ætna*, a Mountain in *Sicilia*, at this day called *Gebel*, from whose top the ejected *flames* and *smoak* are discovered at a long distance in the *Mediterranean Sea*, even to *Malta*, which is 40 *German miles*. Howbeit that the ejaculation of the flames be continual, yet notwithstanding sometimes it rageth with a greater force. In the *Year* 1537. from the first of *May* to the twelfth, all *Sicilia* was shaken with an *Earthquake*, then a great and horrible noise was heard, as if *Canons* had been fired: there followed the destruction of many *Edifices* throughout the whole *Isle*, when that this *storm* had continued for eleven *days*, the *Earth* was rent in twain, or opened it self with a vast *Gulph*, whence a great *flame* and *fire* brake forth, by which, within the space of four *days*, all was consumed and burnt which was not distant above five *miles* from *Ætna*. A little after the *Funnel*, which is on the top of the Mountain, for three *days* cast forth an abundance of *Ashes* and *Coals*, which were not only dispersed throughout all the *Isle*, but also beyond the *Seas* into *Italy*. And the *Ships* in the *Sea* about 200 Leagues distant, steering towards *Venice*, were much damnified. *Farellus* hath at large described the *fires* of this Mountain, and doth also say that the foot of it is 100 *Italian miles* in Circuit. And in *Anno* 1669. the flames broak forth in a violent manner, to the great damage of the Inhabitants of those parts.

A great strange Earthquake.

Mount Hecla. 2. *Hecla*, a Mountain of *Island*, doth sometimes rage as much as *Ætna*, and cast forth great *stones*: And continual *fires* in it wanting a free evacuation, oftentimes send forth noises like unto lamentations; thence many simple people supposed that there was the place of *Hell*, where the *Souls* of the damned were tormented.

3. *Vesu-*

Vesuvius, or Monte de Soma. 3. *Vesuvius*, at this day *Mont de Soma*, not far from the *City* of *Naples*; is planted with most fertile *Vines*, which, without the time of the Conflagration, maketh the best *Falernum*, but it is obnoxious to frequent burnings. *Dion Cassius* relateth, that in the Time of *Vespasian* its Conflagration, and the force of its Flames were so vehement, that the *Ashes* cast forth from its bottom with the Sulphureous smoak, were not only carried by the wind to *Rome*, but also beyond the *Mediterranean Sea* into *Africa*, even to *Egypt*: moreover, the *Birds* being suffocated in the *Air*, fell to the *Earth*; the *Fishes* perished in the adjacent, infected warm and frequent water. Concerning this Conflagration, and the sad mutation of the Mountain, there is an excellent Epigram in *Martial*, who lived at that time, and saw the Mountain in its Verdure, and afterwards buried in its *Ashes*. But then the Conflagration ceasing, and the Showers watering the Sulphureous *Embers* and *Ashes*, in the Superficies of the Mountain here and there was great fertility of *Wine*. But again within these few years this Mountain burned afresh, and sent forth an abundance of Smoak; The adjacent *Land* was burnt, and became dangerous to *Travellers*, by reason of the various Pits which the flame caused.

A Mountain in Java worthy of note. 4. A Mountain in the Island of *Java*, not far from the City *Panacura*: This in the Year 1586. when it had never burned before, first was rent with a violent eruption of flaming *Sulphur*, so that about 10000 persons were said to have perished in the neighbouring places; and it ejected exceeding great *Stones* into the *City*; and for the space of three days it vomited forth so much black Smoak mixt with *Ashes* and *Embers*, that it obscured the face of the *Sun*, and almost cloathed day with nights dark Mantle.

The Mountain Gonnapi. 5. *Gonnapi*, a Mountain in one of the Isles of *Banda*. This in the Year 1586. in the Month of *April*, when that it had burnt for 17 years, was rent with a great noise, and cast forth such an abundance of great *Stones* of *Sulphur* and ardent matter on the *Sea* and *Land*, that it astonished all persons: The abundance of *Ashes* and *Embers* also rendred the *Cannons* of the *Hollanders* in their Castle unserviceable, such a vast heap overwhelmed them. Vast *Stones* were found in the *Sea*, with a multitude of small ones, so that the Barks had scarce a free passage. The *water* on the *shoar* so boyled, as if that *fire* had been placed under it: An abundance of *Fishes* were killed and seen floating on the *water*.

Balaluanum. 6. *Balaluanum*, a Mountain in the Isle of *Sumatra*, casteth forth *Smoak* and *Flames* as *Ætna*.

Many places in the Molucco Isles cast forth fire. 7. In the *Molucco Isles* the *Land* in many places belcheth forth *fire* with an huge noise; but it is chiefly noted for the Funnel of *Ternate*. The Mountain is advanced to the *Clouds*, and very steep, the lower parts of which are covered with thick *Woods*, the upper naked by reason of the *fire*. On the top is the Funnel of a vast wideness, which is in the form of an *Amphitheater* with many *Circles*, the greater including the lesser; thence in the *Equinoctials*, especially those in the *Spring* and *Autumn*, certain *Winds* blowing, chiefly the Northern, with an horrible noise, Flames mixed with black *Smoak* and *Embers*, break forth, and fill all places to a great distance with *Ashes*. There are annual seasons of seeing it; neither can one ascend but by *Ropes* or *Chains* in certain places. Here in some places of this Mountain the *Inhabitants* gather good *Sulphur*. *See Maffeus.*

8. One of the Islands of *Maurice* (60 *Leagues* distant from *Moluccoes*) oftentimes the whole *Isle* is shaken with an *Earthquake*, and vomiteth *Fire* and *Ashes*: and there is so great an abundance of *Fire*, that whole *Mountains* and *Rocks* do burn. Oftentimes *fiery Stones* break forth of a vast bigness. When the *Wind* is more vehement, so vast an abundance of *Ashes* is poured forth, that *people* labouring in the *Fields* are forced to return home, being covered with *Ashes*: those *Ashes* also kill their living *Creatures*. From the top of the Mountain this black and dismal *Fire* breaketh forth with a dreadful noise, like unto *Thunder* or great *Guns*: And from thence cometh abundance of *Pumice Stones* and other *Stones* burnt in the *fire*.

9. In

A Mountain in *Japan* worthy of note.

9. In *Japan* (as *Maffæus* relateth) there is a Mountain which continually vomiteth *Flames*, on the top of which the *Evil Spirit* sheweth himself to certain Persons, after that they have macerated themselves for a Vow sake.

10. Many *Vulcanelloes* are found in the *Isles* of *Japan*, distant 70 *miles* from *Ferando*. Also in a certain small *Isle* which lieth between *Tanaxuma*, and the *Isles* called the *Sisters*, a *burning Mountain* is discovered, at other times smoaking.

Certain *Vulcanes* in the *Isle Tendai*.

11. In *Tendai*, one of the *Philippine Isles*, where the *Promontory* of the *Holy Spirit* is, certain *Vulcans* are found: One also in the *Isle Marindique*, another of the *Philippine Isles*.

12. In *Nicaragna*, a *Province* in *America*, a lofty Mountain casteth forth *flames* in such great abundance, that they may be seen 10 *miles* distant.

Vulcan Mountains in *Cordillera*.

13. In the Ridge of *Peru* called *Cordillera*, here and there are certain *Rocks* and *Vulcan Mountains*, partly *smoaking* and partly *burning*, and they are said to cast out *fire*. Especially in the *Province* of *Carrapa*, there is a Mountain from whose top, when the *Heaven* is serene, much *smoak* is discovered to be elevated.

Clefts in *Peru*.

14. Near to *Arequipa* a City of *Peru*, 90 *miles* distant from *Lima*, a certain *Sulphureous Mountain* continually ejaculateth *fire*, which is found dangerous to the *City*.

15. In *Peru*, near the Valley *Mulahallow*, about 50 *Leagues* from *Quito*, there is a *Vulcan*, which once rending, cast forth great *Stones*, and terrified also the remote places with the huge noise.

Other *Vulcans*.

16. In one of the *Islands* which they call *Papoys*, which *Le Maire* discovered (except peradventure it may adhere to the *South Continent*) on the *Oriental Coast* of *New Guiney* is a *Vulcan*, which at that time burned.

17. Certain Mountains lying on the *Oriental Shore* of the River *Jeniscea*, in the *Country* of the *Tingesi* beyond *Ob*, towards the East, by a *journey* of some *weeks*, there are *Vulcans* as the *Muscovites* do report.

18. Certain Mountains at the River *Pesida* beyond the Region of the *Tingæsi*.

A *Vulcan* in *Liburnia*.

19. In *Liburnia*, near the City *Apollonia*, is a rocky Mountain, from the top of which continually issueth *smoak* and *flame*. In the Land adjoyning there are hot *Fountains*; there are also certain Mountains which have now ceased to burn. So the Isle *Queimoda*, on the *Coast* of *Brasil*, not far from the mouth of the *Silver River*, in time past did burn: so the Mountains in *Congo* or *Angola*, which they term *Vesbrande Bergen*. In the *Isles* of the *Azores*, especially *Tercera* and St. *Michael*, formerly the *Earth* burned in many places, but now the *smoak* in some places is sometimes expelled; hence also they have often *Earthquakes*. The *Isles* of St. *Helena* and of the *Ascension*, have also its *Earth* like unto these, *viz.* a *Dust*, *Embers*, and *Ashes*, so that in times past it is probably the Mountains of these *Isles* burned, which is also manifest from the *Sulphureous Earth* and *Coals*, which they call *Smitskolen*. Now the cause of these *Vulcans* or *burning Mountains*, is a *Sulphureous bituminous Substance*, which is contained in such like Mountains.

Proposition VI.

The Tanges of the Mountains, some admit of no passage or opening, some of many, othersome of one or another only.

Of the Tanges of the Mountains.

They are called *Portæ* and also *Thermopylæ*. Of which the more noted are, 1. The *Thermopylæ* in *Phocis*, from which this name was communicated to the rest. 2. The *Caspian Portæ*, which, as through a narrow passage, are admitted into the *Caspian* Mountains. 3. The Port of the Mountain *Cordillera* in *Peru*. 4. The Port of the Mountain which is extended between *Abyssine* and *Arabia Troglodytica*, through which they carry *Provision* and *Grain* from that *Region* unto this. 5. In *Caucasus* the *Sarmatick* and *Albanian Ports*.

Pro-

Proposition VII.

That Mountain is termed a Promontory which runneth forth in a certain Tract to the Sea, or on the Shore is elevated above the adjacent places.

Of Promontories or Capes.

In *Mapps* they are called *Capes* or *Heads*; among which the more noted are,

Cape of *Good-hope*.

1. The *Cape of Good-hope* in *Africa*, which must be passed by those that sail into *India*.

Cape Victoria.

2. *Cape Victoria* in the end of the *Streights* of *Magellan*.

Cape Verd.

3. *Cape Verd* in the *Angle* or *Point* of *Africa*, where the *Shore* windeth from West to East.

Cape Vincent.

4. *Cape Vincent* in *Spain*.

Promontory or *Cape* of *Atlas*.

5. The *Promontory* of *Atlas*, so anciently called, not a *Cape*, because that *Mariners* some Ages past supposed that it could not be passable; or that if any one had sailed beyond it, yet he could not return back safe: therefore this was the bound of their *Navigation* on the *Coast* of *Africa*. Other *Promontories* may be seen in the *Mapps*.

Proposition VIII.

Unto Mountains are opposed Caves and deep Abysses, which are found in few places of the Earth.

Of Caves or deep Abysses.

In times past that *Mephitick Cave* in *Island*, called the *Cave* of St. *Patrick*; and that *Cave* in *Italy*, called *Grotta del Cane*, was famous. In the Mountain of *Fessano Beni Guazeval*, is a *Cave* that vomiteth forth *fire*.

In the Island *Baruch*, adjoynig to *Wales* in *England*, near the *Sea* is a *Rock*, in which there is a *Cave*, unto which if you apply your ear, a noise like stroaks of *Hammers* upon *Iron*, as in a *Smith's shop*, may be heard.

Not far from the City *Bessa* in *Aquitain*, is a *Cave*, vulgarly called *Du Souley*, in which, in the *Summer season*, a noise is heard like unto *Thunder*.

In many places betwixt the midst of the Mountains, there are found *Valleys* so profound, that they strike the Beholders with horrour, and cause a giddiness.

CHAP. XI.

Of Mines, Woods, and Desarts.

Of Mines, Woods, and Desarts.

Mines, *Woods*, and *Desarts* do ennoble certain Parts or Tracts of the *Earth*; concerning which, although little can be proposed, yet for an exact knowledge of the *Terrestrial Superficies*, it will not be unnecessary to consider those *Places*, and to design the *Tracts* and *Limits* of them; which we shall briefly perform in this *Chapter*.

Proposition I.

A Mine is a place in the Earth from which Metals, Minerals, or other sorts of Earth are dugg.

Of Mines.

But because what is dugg up out of the *Earth* is various, therefore all these *Mines* receive various denominations, as *Mines* of *Gold*, *Silver*, *Copper*, *Iron*, *Marble*, *Mines* of *precious Stones*, and the like.

Peru and *Castella Aurea*, and *Potosi*, rich in Mines.

The most famous of the *Gold* and *Silver Mines* are those of *Peru* and *Castella Aurea*, the richest in the world: for throughout all the *Provinces* of *Peru* are found *Mines* abounding with *Gold* and *Silver* (yet not excluding the other *Metals*); so that the Natives of *Peru*, and the *Spaniards* in times past did boast that the Ground or Soyl of this Kingdom was *Gold* and *Silver*. *Girava*, a *Spanish* Writer testifieth, at the City *Quito* are *Mines* which yield more *Gold* than *Earth*; therefore when that the *Spaniards* first arrived in this *golden Kingdom* (which for that reason they have fortified with strong *Castles* and *Forts*) in many *Cities*, especially the *Regal City*, called *Cusco*, they beheld many *Houses* spread within and without with *Plates* of *Gold*. The most rich *Mine* of *Silver* is in the Mountain *Potosi*, in which 20000 *men* are employed to digg the *Earth*, descending by at least 400 *steps*, and by these *Mines* the *King* of *Spain* receiveth a vast Revenue annually, to the envy of all other *Emperours* and *Potentates*.

2. The most excellent *Silver Mines* are in the *Isles* of *Japan*, hence termed by the *Spaniards* the *Silver Islands*. There are also *Mines* of *Gold* found there, but now less rich than formerly.

3. *Arabia* had more abundance of *Mines* of *Gold*, than at this day.

4. In the mountainous parts of *Persia*, as also in *China* there are certain *Mines* of *Silver*.

This Gold is called *Sand Gold*.

5. In *Guiney* are many Mountains producing *Gold*, but yet remote from the *shore*. The *Gold* is not dugg up that cometh from thence, but is gathered by other ways. Every one of their *Kings* are said to have their proper *Mines*, and sell the *Gold*, for which the *Europeans* give in exchange other *Commodities*.

6. In *Monomotapa* there are found rich *Mines* of *Gold* and *Silver*, as also in *Angola*.

7. Of all the *Provinces* of *Europe*, *Germany* is the most rich in abundance of *Mines*, whereof some afford some little *Gold*, divers *Silver*, and very many *Copper*, *Iron*, *Lead*, *Vitriol*, *Antinomy*, and the like.

Rich Mines in *England*.

8. In many parts of *England* are rich *Mines* of *Lead* and *Tin*, which are found very profitable to the *Kingdom*, not only by that which is used here at home, but also by the great quantities which are transported to other *Countries*. Likewise *Mines* of *Iron*, *Coals*, some of *Silver*, &c.

9. *Sweden* hath the most rich *Copper Mine* of any hitherto known, in a vast Mountain which they call *Den Copperberg*: such a great quantity of *Copper* is dugg, that it is said to make up the third part of the *King's Revenue*. There are also *Mines* of *Silver* and *Iron*, but they hardly discharge the expences in digging it.

10. *Mines*

Mines of Jewels.

10. *Mines* of *Jewels* are found in the Island of *Ceiland*, where there is also a *Silver Mine*, and a great *Marble Mine*.

11. In the *Region* of *Chili* are rich Mines of *Jewels*, as also of *Silver* and *Gold*, but the warlike *Natives* having more esteem to *Iron Weapons* than to *Gold* and *Silver*, have vanquished the *Spaniards* and demolished the *Mines*.

12. In the *Isle* of *Madagascar*, *Iron* and *Gold* doth much abound; there is a moderate quantity of *Silver*, little *Gold*, no *Lead*; whence it cometh to pass that the Natives more value *leaden dishes* and *spoons*, than those of *silver*.

13. In the *Isle* of *Sumatra*, they write, that there are large *Mines* of *Gold*, *Silver*, *Brass*, and *Iron*, insomuch that their *King* in the Year 1620. had by him 1000 *l.* weight of *Gold*.

14. In the *Philippine Isles*, *Java*, *Hispaniola*, *Cuba*, and the rest, *Histories* record that *Mines* of *Gold*, *Silver*, *Copper*, and *Iron* are found. In the Mountains of *Siam* also they relate that *Gold*, *Silver*, and *Tin* are found.

Salt Mines.

15. *Mines* of *Salt* are found in *Poland* at *Pochniam*, four *miles* from *Cracovia*, where they cut of huge lumps of lucid and white *Salt* from the *Earth*. In *Transilvania*; in the County of *Triol*; in *Spain*; in *Asia minor*; in *Kilisim* a Mountain of *Persia*; in places near the *Caspian Sea*, not far from the River *Volga*, where is the Island *Kostowata*. Hence the *Russians* digg their *Salt*, and boyle it up to a more pure Substance, and transport it throughout all *Russia*. There is a salt Mountain in *Cuba*. All the Mountains of the Isles of *Ormus* in the entrance of the *Persian Gulph*, consist of a *Christalline salt*; yea, the whole *Isle* is almost nothing else but *salt*, out of which they make the *Walls* of their *Houses*. In *Africa* there is no other *salt* but what is dugg out of the *salt* parts of *Caves*, as *Marble* is, of a white, red, and ashy colour. In *Peru*, 80 *miles* from *Lima*, in a certain *Valley* great plenty of *Salt* is found, whence every one may take what they please, because it continually encreaseth, neither doth it seem possible ever to be exhausted. In the Kingdom of *Musulipatan*, near the City *Baganaga*; great abundance of *salt* is dugg up, whence all the *Indians* fetch it. Of *salt Fountains* we shall speak in another *Chapter*.

Proposition II.

A Wood is a multitude of Trees stretched forth in a long and continued Tract of Earth, and propagated without any Culture, or dressing and planting.

Of Woods.

Most *Woods* have only *Trees* of one sort, and are denominated from them; and seeing that there is great variety of *Trees*; there are also various differences of *Woods*, as a *Wood* consisting of *Palm-trees*, is termed *Palmetum*; of *Oak*, *Quercetum*, and the like. Although these terms are frequently used for *Groves* or less *Woods*. But they are divers in several *Regions*, especially in those more remote. In *Africa* at *Cape Verd*, are Woods of *Citrian* and *Orange-trees*, such as are also found in other places. In *France* are whole *Woods* of *Chesnut-trees*. In the *Isle* of *Ceiland* are *Trees* whose bark doth afford *Cinamon*. In *Banda* are *Nuces Muscatæ*. In *Brasil* are *Woods* of *Trees* called *Brasil* of great use for *Diers*. In *Madagascar* are *Tamerind Trees*, as also in other places. *Cedars* on Mount *Lebanus*, of which whole *Woods* are also found in *Japan*, so that they use them for *Masts* for *Ships*. In *Spain*, *France*, and *Italy* are *Olive* and *Mirtle Trees*. In *Germany* the *Woods* consist of *Beech*, *Oak*, *Alder*, *Pine*, *Juniper*, *Maple*, *Firr*, *Ash*, and *Elm*. The most noted *Woods* or *Forests* are, that of *Hercinia*, which in times past almost overspread all *Germany*; part of it is the *Bohemian Wood*, and *Bacen* or *Semana* in the Dukedom of *Brunswick*, *Gabrata*, *Martiana*, and others. In *England* the *Woods* consist of *Oak*, *Elm*, *Ash*, *Beech*, and *Maple Trees*. In *Scotland* the famous *Wood* called *Caledonia*, and others in other places, especially in *Norway*, where there is an abundance of vast *Trees* above all other *Countries* in *Europe*, called *Firr Trees*, whence all the *Masts* of *Ships* almost throughout *Europe* are made. *Lithuania* hath almost nought else but *Trees*, whence the *King* of *Poland* hath a great Revenue.

Proposition III.

Desarts are vast Tracts of Land not inhabited by man.

Of Desarts

They are twofold; those properly so termed, and those improperly: The former are those whose *soil* or *earth* is steril: The latter, which indeed is fertil, but not inhabited by man, as in many places in *Muscovia* about the *Caspian Sea*, from the shore of *Volga*, are many fertil and fat *Fields* which lie uncultivated, and chiefly by reason of the sloath of the *Inhabitants*; as also by reason of the *Wars* of *Tamerlane*, by which those *Countries* were depopulated: but these are less properly termed *Desarts*. Of those properly so termed, these are most noted, which may be divided into four *kinds*, *viz. Sandy*, *Ericose*, *Stony*, and *Marish* or *Boggy Desarts*: Those that are *Ericose* have for the most part here and there in many places *Woods* and *Forests*, are the more useful, and easier to be cultivated.

1. All the *Desarts* of *Africa* are almost Sandy, neither is any part of the Earth more pestered with Desarts; the greatest are found in *Lybia*; they also uncompass all *Egypt*.
2. The *Desarts* of *Arabia* are partly Sandy and partly Stony; but the most famous is that *Sandy Desart* in *Arabia*, termed vulgarly the *Sandy Sea*.
3. The *Desarts* of *Tartaria* about the Mountain *Imaus*: Also the Desart *Belgian* about the *Moguls*, where hitherto it hath been (though falsly) believed, that the rich Kingdom of *Cathaie* is seated.
4. The *Desarts* of *Camboia*.
5. The *Desarts* of *Nova Zembla*, which are *rocky*.
6. The *Desarts* of *Norway*, *Lapland*, *Sweden*, and *Finmarch*.
7. All the *Desarts* of *Germany* are *Ericose*, they term them *Een Heide*, whence they call the *Desart* in the *Dutchy* of *Luneburgh*.
8. The *Desarts* of *America*, and the like.

OF

OF

Absolute Geography.

SECT. IV.

Containing the Hydrography *or the description of the* Water, *explained in Six Chapters.*

CHAP. XII.

Of the division of the Ocean throughout the Earth.

The division of the Ocean.

BY reason that we have treated in the precedent Chapters of the *division* of the parts of the *Earth*, order requireth that we contemplate the *division* and *situation* of the *Waters*, which compose the other part of the *Earth*, and also take a survey of their *Properties* which do appertain unto *Geography*. In *Chapter VII. Proposition II.* we distributed the *Waters* into four sorts; which are, 1. *The Ocean*; 2. *Rivers* and *Fountains of Fresh-waters*; 3. *Lakes* and *Marishes*; and 4. *Mineral Waters*. In this Chapter we shall treat of the *division* of the *Ocean*.

Proposition I.

The Ocean in a continued tract encompasseth the whole Earth, and the Terrestrial parts, neither is the Superficies of the same any where altogether interrupted by the Lands interposed, but the more large continuity and free congress is only impeded.

The truth of the *Proposition* can only be proved by Experience, especially from the *Circumnavigation* of the *Earth*, which hath now for a long while been so often attempted, and hapily performed first by the *Spaniards*, under the conduct of *Magellan*, who first found out the *Streights*: then by the *English* twice,

twice, *viz.* under *Drake* and *Cavendish*; and lastly, five times by the *Hollanders*.

The opinion of the Ancients concerning the Old World.

The *Ancients* nothing doubting of this continuity, by reason that they accounted the Old World only for the extant *Earth*, and thought it on every side to be encompassed by the *Ocean*; yea some supposed it to float. But when that *America* was detected (which is extended from North to South in a very long tract, and impedeth the continuity of the *Ocean*;) and moreover the *Polary Land* North and South, then not undeservedly was it doubted concerning it: For many supposed, and that not without probability, that *America* and the South *Continent* were conjoyned, as many *Geographers* now think, that the *Northern America* is contiguous to *Greenland*; which two, if both true, the Ocean could not encompass the whole Earth. But in truth *Magellan* removed the doubt, when in the *Year* 1520 he found out the *Streights* between *America* and the *South Continent*; by which it was manifest that the *Pacifick Ocean* was joyned with the *Atlantick*. What therefore the *Ancients* imagined from a false Opinion that they knew, that we know from infallible Experience. The like hapned with *Africa*, for then also the *Ancients* without any hesitation placed the *Ocean* without or beyond it, and thought *Africa* to be extended beyond the *Equator* in a far less space than in truth it is; but when the *Portugals* had sailed the Coast of *Africa*, and had found vast Lands in a long tract beyond the *Equator*; and then also it was questioned whether *Africa* could be sailed about, that they might sail into *India*; that is, whether it were encompassed with the *Ocean*? This doubt was removed by *Vasques Gamma*, under whose conduct in *Anno* 1497. *Africa* was first sailed about, the Promontory of *Good Hope* being found to be the ultimate bound of the same towards the South; which appellation it received from the King of *Portugal* in *Anno* 1494, when that *Diaz*, which first related concerning (although he passed it not, Victuals failing him, and the *Tempests* forcing his Return) the storm and raging Ocean of this *Promontory*, and spake much more to the King.

Proposition II.

The difference in the parts of the Ocean, which ariseth from the Earth, is threefold; or the Water of the Ocean may be divided into three kinds, which are, 1. The particular Ocean or Seas; 2. The Bays of the Sea or Ocean; and 3. The Streights.

The Water in the Ocean may be divided into three kinds.

The word *Ocean* is taken in a twofold acceptation: Sometimes for the whole *Ocean* or *Water*, which encompasseth the Earth; sometimes, and that frequently, for any part of the large *Ocean*, which adhereth to another part by a large tract, and that from on both sides: So we say the *Atlantick Ocean*, the *German*, the *Ethiopick*, the *Indian*, and the *Chinesan Oceans*. In this latter signification by use of Speech we sometimes use the word, although we sometimes call a part of the entire Ocean the *Sea*; but by reason of the *homonymie* of the word *Mare*, or *Sea*, which shall be explained by and by, the word *Ocean* is usually used in that sense.

A Bay.

A *Sinus* or *Bay* of the *Sea* is said to be a part of the Sea or Water which runneth between two *Lands* from the *Sea*, or some other *Bay* until it stop at some Land. It is also commonly termed a *Sea*.

A Streight.

A *Fretum* or *Streight* is a part of the *Ocean*, or part of a *Bay* of the Ocean or Sea, running between two Lands in a narrow tract, and conjoyning of two *Seas*, or conjoyned with the *Sea* from both extremities, by which they Sail from one Sea into another.

Pro-

Proposition III.

We reckon four principal Oceans, or great parts of the whole Ocean or Seas, in respect of the situation of the four Continents or Quarters of the Earth.

Four principal Oceans.

1. The *Atlantick Ocean* is that part of the Ocean which is situated between the *Occidental Coast* of the Old World, and the *Oriental* of the New. It is vulgarly termed *Mare del Nort*, or the *North Sea*; but improperly, seeing that it extendeth it self beyond the *Equator* towards the South. It is more aptly divided into two parts, one from the *Equator* towards the North, the other stretcheth towards the South. It hath therefore on the Eastern quarter, the *Occidental Coast* of the Old World, and on the Western, the *Oriental Coast* of *America*. Towards the North it conjoyneth with the *Hyperboreal*, or *Northern Ocean*; and towards the South with the *Southern Ocean*. Atlantick Ocean.

2. The *Pacifick Ocean* lieth between the Occidental Coast of *America* and *Asia*, in a long tract, even to the Isles of *India* and to *China*. Pacifick Ocean.

3. The *Hyperboreal Ocean* about the *North Polary Land*. Hyperboreal Ocean.

4. The *Southern Ocean* about the *South Continent*, part of which Ocean is the *Indian Ocean*. Southern Ocean.

Other *Geographers* make the four parts of the *Ocean* by another difference or division; one of which they make the *Atlantick*, but extend it not beyond the *Equator*; for here they begin the second, which they call the *Ethiopick*: For the third they reckon the *Pacifick* with us; the fourth they make to be the *Indian Ocean*. But we in our *division* have regard unto the four great *Continents* of the Earth, or to the greatest *Isles*: We may make three parts, *viz.* the *Atlantick*, the *Pacifick*, and the *Indian Ocean*; but then we extend the *Atlantick* further. The matter is of no great moment, so that either may be chosen: for this division rather dependeth on our Invention, than on Nature.

Proposition IV.

The parts of the Ocean receive denominations from the names of the Lands they pass by.

So we say the *Cantabrian*, the *British*, *German*, *Indian*, *Chinesan Ocean*, and the like.

Proposition V.

The Bays of the Ocean are twofold, long, and broad; they are also twofold in another respect, to wit, primarily, and secondarily; they begin from the Ocean, these from another Bay; or they are a part of the primary Bay. The long primary are these: The Bays in the Ocean.

1. The *Mediterranean Sea*, it breaketh in from the Ocean between *Spain* and *Barbary*, and for a long space runneth between *Europe* and *Africa*, even to *Syria*, *Asia Minor*, and *Thrace*. It is called the *Internal Sea*. It maketh many secundary Bays, *viz.* the *Adriatick* (Gulph of *Venice*,) the Bay of *Thessalonia*, the *Ægean Sea*, and the like. Mediterranean Sea.

As for the *Euxine Sea* we may doubt, whether it may be said to be a part of this *primary Sinus*, of which see Chapter Fifteen. Euxine Sea.

The *Mediterranean Sea* is distinguished by divers Names, taken from various Regions that it watereth; for towards the North it hath *Spain*, *France*, *Italy*, *Sicilie*, *Illyricum*, *Greece*, *Crete*, *Thrace*, and *Asia minor*; towards the South *Morocco*, *Fez*, *Tunis*, *Algier*, *Tripoli* and *Egypt*. Thence are the Names of the *Iberian*, *Gallick*, *Ligustick*, *Sicilian*, *Balearian*, and *Cretian Sea*. It is extended from the *West* to the *East*.

2. The

Baltick Sea.

2. The *Baltick Sea*, or *Sinus Codanus*, breaketh in from the *Ocean* between the Lands betwixt *Zeland* and *Jutland*; first it floweth by a long way from the North to the South, and then reflecting by a long space it runneth forth to the North, between the Provinces of *Germany*, *Megapolis*, *Pomerania*, *Cassubia*, *Borussia*, *Livonia*, &c. from one side, *viz.* the Oriental quarter. On the Occidental quarter it hath *Sweden* and *Lapland*. It maketh thtee secondary Bays, whereof two are long, *viz.* the *Botnick* and *Finnick*; the third is broad, *viz.* the *Livonick*. It receiveth Rivers of great Magnitude.

The Red Sea.

5. The *Red Sea*, *Arabian Gulph*, or Sea of *Mecca*, floweth from the *Indian* Ocean between the Promontory of *Arabia* to the City *Aden*, and between the Promontory of *Africa*, and runneth between *Africa* towards the West, and *Arabia* towards the East: it stoppeth at the *Isthmus* of *Africa* at the City *Suez*, where is the station or harbour of the *Turkish* Navy; it receiveth very few Rivers, and those of small Magnitude: but none from *Africa*, as some observe. It extendeth from the South quarter of the East, to the collateral quarter of the North quarter towards the West.

The Persian Gulph.

4. The *Persian Gulph* runneth between *Arabia* and *Persia* from the *Indian* Ocean, about the Isle of *Ormus*. It hath *Persia* on the East, and *Arabia* on the West: it stoppeth at *Chaldæa*. It extendeth from East and by South to the West and by North quarter; and receiveth very few Rivers except *Euphrates* and *Tigris*, long before conjoyned.

The Bay of California.

5. The *Sinus* or Bay of *California*, *Mer Vermejo*, runneth between *California* and the Occidental Coast of *Mexico* from the South towards the North: it is terminated at the unknown Province of *America Tatonteac*: It receiveth few Rivers. The Modern Mariners affirm *California* to be an Isle; and if so, this tract of Water cannot be a *Sinus*, *Gulph*, or *Bay*, but a *Streight*.

The Bay of Nanquin.

6. The Bay of *Nanquin*, runneth between *Corea* and the Coast of *China* and *Tartary* unto the Northern parts of *Tartary*, where *Tenduc* the Kingdom of *Cathay* is placed; yet falsly as those suppose, who will have *Corea* to be an Isle. It receiveth few Rivers: it extendeth from West to North.

These are the long Gulphs, unto which lesser may be added; as the Gulph of *Cambaia*, and others. The four last rehearsed do not afford secondary Gulphs, *viz.* *Arabia*, *Persia*, *California*, and *Nanquin*, but only the *Mediterranean* and *Baltick*.

Proposition VI.

Broad Gulphs are in number Seven, viz.

Gulph of Mexico.

1. The Gulph of *Mexico* floweth from the *Atlantick* Ocean, between the North and South parts of *America*, which it separateth from the Oriental quarter to the Occidental. It stoppeth at a long *Isthmus* between those Lands; which impedeth the conjunction of the *Pacifick* and *Atlantick* Ocean on this quarter. It receiveth many Rivers, and for multitude of Isles may compare with the *Ægean Sea*.

Gulph of Gangis.

2. The Gulph of *Ganges*, (Gulph of *Bengala*) floweth between *India* and the *Chersonesus* of *Malacca*, from the *Indian* Ocean: it stoppeth at the Kingdoms of *India*, *Bengala*, *Pegu*, and others. It receiveth noted Rivers, besides the *Ganges*.

3. The Gulph between *Malacca* and *Camboja*, not far from the Gulph of *Bengala*, and likewise floweth from the South towards the North: it stoppeth at the Kingdom of *Siam*.

The Gulph Lantchidolinum.

4. The *Russian Gulph*, or *White Sea*, floweth from the North Ocean, between *Lapland* and the utmost Coasts of *Russia*, towards the South: it is terminated partly at *Finland*, and partly at the Kingdom of *Moscovia*: it maketh a certain small long Gulph, which is extended to *Lapland*; where is that noted and well frequented Mart *Archangelo*. It receiveth eminent Rivers.

5, 6. The

The Gulph Lantchidolinum.

5, 6. The Gulph *Lantchidolinum* floweth from the *Indian Ocean*, between the Provinces of the South Country *Beach* and *New Guiney*: it stretcheth from the North to the South, and terminateth at the unknown parts of the South Continent.

Another *Gulph* is near unto it towards the West, between *Beach* and the other procurrent Land of the South, where is the Land called *Anthonij à Diemen*, which is the Name of a *Dutch* Master of a Ship by whom it was discovered.

Hudson's Sea.

7. *Hudson's Sea* is a *Gulph* between *New France* and *Canada*, and other parts of the Northern *America*; it is terminated at *Estotiland*.

Proposition VII.

Fretum, or Streights are threefold. For either they conjoyn the Ocean with the Ocean; or the Ocean with a Gulph; or a Gulph with a Gulph.

Of Streights.

We will enumerate fifteen, whereof three are of most note.

Streights of Magellan.

1. The *Streights* of *Magellan* of a very long Tract; it conjoyneth the *Atlantick Ocean* with the *Pacifick*, and affordeth a passage from one into the other. The *Longitude* of it from East to West is 110 *miles*: the *Latitude* is various, sometimes two *miles*, sometimes one, and sometimes a quarter of a *mile*. *Magellan* was the first that found it, and sailed it in *Anno* 1500: its *Latitude* from the *Equator* is 52 *degrees* 30 *minutes*. On the North it hath *Chica*, a Province in South *America*: On the South the Isles of *Magellan* and *Terra del Fuego*.

Fretum le Maire

2. Near unto this is *Fretum le Maire*, between the South Continent and the Isles of *Magellan*; through that the way is far shorter through the *Ocean* of *Atlas* into the *Pacifick Sea*. It is distant from the *Equator* 54 *degrees* 30 *minutes*.

Streights of Manilhas.

3. The *Streight* of *Manilhas* extended between *Luconia*, *Mindanoa*, and other *Philippine Isles*; it is reported to be 100 *Leagues*. It is dangerous to *Ships* by reason of the abundance of *Sands*. It is extended from the East to the West. It conjoyneth the *Pacifick Ocean* with the *Indian* on that part, albeit there be more free conjunctions in the *Vicine*.

4. There be many *Streights* among the *Indian Isles*, as also between the *Isles* and *Vicine Continents*. As first between *Ceilan* and *India*. 2. Between *Sumatra* and *Malacca*. 3. Between *Sumatra* and *Banda*.

Waigats Streights.

5. *Waigats Streights*, through which there is a passage from the North or *Russian Sea* into the *Tartarian Ocean*, but as yet is stopped with *Ice*, at least from the *Europeans*. It lieth between *Samojeda* and *Nova Zembla*.

Glacick Streights.

6. The *Glacick Streights* between *Nova Zembla* and *Spitzberga*, or by another name termed *Terra Polaris*.

Davies Streights.

7. *Davies Streights* between *Groenland* and the Northern *America*, but the *Exit* of it is not yet discovered, and therefore it is doubted whether it be a *Streight* or a *Gulph*.

Forbishers Streights.

8. *Forbishers Streights* afford a way to the *Atlantick Ocean*, if not by the *Pacifick Ocean*, yet at least by *Hudson's* Passage.

Streights of Anian.

9. The *Streights* of *Anian* between North *America* and *Tartaria*, through which there is a passage from the *Tartarian Ocean* into the *Pacifick*; but as yet uncertain. But yet that there is some *Streight* between the North part of *America* and *Tartaria*; and also another between *America* and *Groenland*, skilful Mariners do hence collect, because that in that part of the *Pacifick Sea*, which lieth between *Tartaria* and the *Occidental Coast* of the Northern *America*, 70 *miles* from *Japan* to *America*, the names of the *Sea*, and motion of the same is from the North, and West and by North, although divers winds, or those from another quarter do blow; but for 100 *miles* before that Shore of *New Spain*, those *floods* and *motions* cease altogether; for they are carried to some open *Streight* beyond *New Spain*, scituated towards the North. Add

moreover, that in those 70 *miles*, many *Whales* and *Fishes* which the *Spaniards* call *Albacores*, *Bonetos*, and *Arum* are found, which kind of *Fishes*, for the most part, move about *Streights*; so that it is probable that they come from the *Streights* of *Anian* into this part of the *Pacifick Ocean*, seeing that they are not found in any part of the *Ocean*. But very many of the Moderns altogether deny this *Streight*, and place the wide *Ocean* between *Tartaria*, *Corea*, and *America*.

Straits of *Gaditanum*. 10. The *Streights* of *Gaditanum*, *Herculeum*, or of *Gibraltar*, through which the *Atlantick Ocean* floweth into the *Mediterranean Streight*: The least *Latitude* is about one *mile*; the *Longitude* greater. It lieth between *Spain* and *Africa*. Writers affirm that in times past there was no such *Streight*, but that it proceeded from the *Oceans* breaking through into the *Land*.

The *Sound*. 11. The *Streights* of *Denmark*, or the *Sound*, lie between *Zeland* and *Scandia*; through it the *Atlantick Ocean* floweth into the *Baltick Sea*. The *Latitude* is about ½ a *mile* where it is narrowest. Unto this *Streight* we must add another between *Zeland* and *Funen*; and a third between *Funen* and *Jutland*, called the *Belt*.

Arabian Gulph 12. The Mouth of the *Arabian Gulph*; it is near the *Emporium Aden*, through which there is a passage from the *Indian Ocean* into the *Red-sea*.

Persian Gulph. 13. The *Streights* of the *Persian Gulph*, yet improperly so termed, by reason that the entrance is no more narrow than the *Gulph* it self.

The *Hellespont*. 14. The *Hellespont*, a *Streight* sufficiently famous amongst the *Greeks*, through which there is a passage from the *Euxine Sea* into the *Propontis*. Near unto this is another *Streight* termed the *Thracian Bosphorus*, by which they sayl from the *Propontis* into the *Ægean Sea*.

15. The *Streights* between *Sicily* and *Italy*.

Thus have we explained the differences of the Parts of the *Ocean* existing from the scituation of the *Land*, as in the eight *Chapter* we have shewed the differences of the Lands proceeding from the *Oceans* flowing between. For the more facile retaining of the same, it will be advantageous to have a *prospect* or *periplus* of the *Maritinate Coast* of the *Lands* and *Tract* of the *Ocean*.

For the more easie remembring of the scituation of the Parts of the *Earth*, it will be necessary to know the *Shores* of the *Continents* of the *Maritine Coasts*, and their conjunction; also the conjunction and scituation of the Parts of the *Sea*.

The *Periplus* of the Maritine Coasts of the old world. The *Periplus* of the *Maritine Coast* of the *Old World* is that which comprehendeth *Europe*, *Asia*, and *Africa*. The bound of the same towards the North is *Waigats Streights*; hence therefore it is best to begin. The Province of *Samojeda* adjoyneth to *Waigats Streights*, and in proceeding forwards towards the West of *Muscovia*, where also the *Land* by a *Gulph* made receiveth the *white Sea* from the North: Then *Lapland* and the *Coast* of *Norway* towards the West, lying from the North to the South. Here a bending being made towards the East, the *Coast* of *Scania* and *Gotland*, where another bending being made, whose other *Coast* is *Jutland*, receiveth the *Sea*, which is called the *Baltick Sea*, flowing to *Swedeland*, *Finland*, *Livonia*, *Borussia*, *Cassubia*, *Pomerania*, *Megapolis*, *Holsatia*, and *Jutland*. Then followeth the other *Coast* of *Jutland* and *Holsatia*, *Friesland*, *Holland*, *Zeland* (where the *Sea* is termed the *German Sea*) *France* and *Spain*. Here again is a divarication, and a *Gulph* being made, the Internal Sea is received in and floweth by *Spain*, *France*, *Italy*, *Illyricum*, *Græcia*, *Thracia*, *Asia Minor*, *Egypt* and *Barbary*, where at *Morocco*, the Shore again is opposite to the *Spanish Coast*; and afterwards followeth the Occidental shore of *Africa* at *Cape Verd*, where the Coast bendeth to the East, *viz.* here is *Guiney*, *Angola*, *Congo*, towards the South at the *Cape* of *Good-hope*, where again the Shore bendeth towards the North, *Mozambique*, *Soffala*, and a *Gulph* is made for the *Red-sea*: then followeth the *Coast* of *Arabia*; here the *Coasts* of the *Persian Gulph*; and towards the East, the *Coast* of *Persia*, *Cambaja*, *Indostan*, *India*, *Malacca*, *Bengala*, *Camboja*, *China*, *Tartary* at *Corea*, or the *Streight* of *Anian*,

Anian, whence by or through the Northern Coast of *Tartary* and *Samojedia*, you return to *Waigats Streights*.

The *Circumscription* or *Periplus* of *America* is thus:

The *Periplus* of *America*. We begin from the Shore of *Davies Streights*, whence in a *Gulph* being made, the Sea named from *Hudson* is received. Here by a reflexion are the Coasts of *Estotiland*, *New-England*, *New-France*, *Virginia*, *Florida*, *Mexico*, the *American Isthmus*, *Castelle del Oro*, *Guiana*, *Caribana*, *Brazilia*: Here the Coasts of the *Streights* of *Magellan* looking towards the South, but extended from the East to the West: hence from the South to the North runneth the Shore of *Chili*, *Peru*, the *American Isthmus*, *Mexico*, where at *California*, the Sea of *Vermejo* is received in a *Gulph*; hence the Coast of *California New-England*, *Quivira*, *Anian*, where are the Coasts of the *Streights* of *Anian*, which now they deny, and follow unknown Shores, which are extended to the *Streights* of *Davies*.

The *Circumscription* of the *North Polary Land* is thus: From *Davies Streights* the Coasts of *Groenland* do begin, which run a little towards the South, and then return to the North, and are termed the *Coasts of Spitzbergh*.

Then the Shore runneth from the Region of *Nova Zembla*, and is opposite to the *Tartarian Ocean*; where the other Coasts, even to *Davies Streights*, are unknown.

The *Periplus* of the Land of *Magellan*. The *Periplus* of the Land of *Magellan* is thus: The Coast beginneth from the *Streights* of *Magellan* or *Le Maire*, and making divers windings to the Region *Beach*, where the *Lantchilonium* Sea is received in a *Streight*: hence the Coasts of *New-Guiney* run forward to the North, and then return to the South, then they go strait on to the *Streights* of *Magellan*. Thus the *Periplus* of the Land is finished.

Now let us take a prospect of the *Circumscription* of the *Ocean*: We will make entrance between *Davies Streights* and *Nova Zembla*; and here is the *Hyperborean Sea*, the *Frozen Sea*, the *Caledonian* or *Sea* of *Groenland*: then it runneth between the Coast of *Europe* and *America*, and is called the *British Sea*, the *Danish Sea* (where it maketh a *Gulph*) the *German*, *French*, *Spanish*, (where it maketh the *Mediterranean* and *Sea* of *Mexico*) the *Atlantick* in part, here, *viz.* where it runneth between the *Coasts* of *Brasil* and *Africa*, by and by it is called *Æthiopia*; and the *Streights* of *Magellan* on one side enter in, from the other Eastern quarter is the *Indian* and *South-sea*, where it is extended between *Africa* and the *Land* of *Magellan*, then between *Asia* and the same *Land* of *Magellan*, and cometh into the *Pacifick sea*, which is extended to the *Streights* of *Waigats* and *Anian*; and to the South *Streight* of *Magellan* (by the middle of which it is joyned to the *Atlantick*) it directly tendeth to the *Oriental Coast* of *America*, *Chili*, *Peru*, *Mexico*, *California*, *New-England*.

To these I should subjoyn two *Tables*; whereof one containeth the division of the Parts of the *Earth*; the other the *division* of the Parts of the *Ocean*, but having made use of the former in the eighth *Chapter*, I omit it here, and only make use of the latter, *viz.* the Parts of the *Ocean*.

The *Earth* is divided into *Land* and *Waters*. The *Water* is divided into *Rivers*, *Lakes*, *Marshes*, and the continued *Ocean* or *Sea* is distinguish'd through the *Lands* by these differences.

1. The OCEAN, whose chief parts are four,
   1. The *Atlantick*, *Mer del Nort*, following with the *Ethiopick Sea*, between *Europe* and *Africa* on the one part, and *America* on the other, obtaineth divers Names, according to the parts; as the *Ethiopick*, *British*, *French*, Ocean.
   2. The *Pacifick Ocean*, *Mer del Zur*, between the extream parts of *Asia*, the *Indian Isles*, and the Occidental Coast of *America*.
   3. The North Ocean, about the North Continent, the *Tartarian*, *Hyperborean*, *Frozen* Ocean.
   4. The South Ocean, about the Land of *Magellan*, part of which is the *Indian Sea*.
2. BAYS, or GULPHS.
   - *Long*; whereof there are six, to wit,
     1. The *Mediterranean*, running between *Africa* and the Regions of *Europe*, whose parts are The *Iberian*, *Sicilian*, *Cretan* Sea, &c. The secondary Gulphs, which are many, The *Adriatick*, Gulph of *Venice*, *Euxine* Sea, The Bay of *Corinth*, &c.
     2. The *Baltick* Ocean, whence are these secondary Gulphs, as that of *Livonia*, *Botnia*, *Finmarke*.
     3. The Gulph of *Arabia*, between *Africa* and *Arabia*.
     4. The *Persian* Gulph, between *Arabia* and *Persia*.
     5. The Gulph of *California*, between *California* and New *Granada*.
     6. The Gulph of *Corea*, between *Corea* and the utmost bounds of *Tartaria* and *China*.
   - *Broad* or *Wide*, as
     1. The Gulph of *Mexico*, between the North and South *America*.
     2. The Gulph of *Bengala*, between the Coasts of *Indostan* and *Malacca*.
     3. The Gulph between *Malacca* and *Camboja*.
     4. The *White Sea* from the North Ocean, between *Lapland* and the utmost Coasts of *Moscovia*.
     5. The *Lantchidol Sea*, between the *Beach* and New *Guiny* of the Land of *Magellan*.
     6. *Hudsons* Sea, between New *France* and *Canada*, arising from the Northern Ocean.

     These want Streights.
3. *Streights*, as the Streights of
   1. *Magellan*, by which you come from the *Atlantick* or *Ethiopick* into the *Pacifick*; and this is the longest Streight of all others.
   2. *Le Maire*, near to that of *Magellan*, and of the same use.
   3. *Waigats*, by which you sail from the North Ocean into the *Tartarian*.
   4. *Anian*, by which you sail from the *Tartarian* into the *Pacifick Ocean*; which is now denied.
   5. *Davis* and *Forbishers*, by which you sail from the *Atlantick* into the *Tartarian* or *Pacifick*.
   6. *Nova Zembla*, by which a way might be granted from the *Hyperborean* and *Frozen-Sea* into the *Tartarian*, but that the Ice doth hinder.
   7. *Gibraltar*, by which a passage is from the *Atlantick* into the *Mediterranean*.
   8. *Denmarke*, (or the *Sound*) by which you pass out of the *Atlantick* into the *Baltick Sea*.
   9. The Mouth of the *Arabian Sea*, by which you arrive in the *Arabian* Gulph.
   10. The Mouth of the *Persian Sea*, by which you come into the *Persian* Gulph.
   11. The *Hellespont* and *Bosphorus*, by which you come from the *Ægean Sea* into the Sea of *Pontus*.

As concerning the *Caspian Sea*, whether that it be peculiar, or whether that it belongeth to the broad Gulphs of the Ocean, of which it is a subterranean passage, is yet doubted.

CHAP.

CHAP. XIII.

Of some Properties of the Ocean, and its Parts.

Proposition I.

The Superficies of the Ocean, and all Liquid Bodies, is Rotund, Spherical, or else is part of a Spherical Superficies, whose Center is the same with that of the whole Earth or Land.

The verity of this *Theorem* is manifest from those Arguments, by which we proved in the *third Chapter*, that the *Superficies* of the *Earth* is *Spherical*, which is true concerning the *Water* as the *Earth*, as I have there proved. But because those probations only conclude *à posteriori*, I here therefore determine to make demonstration *à priori*, by which *Archimedes* proved concerning all *Liquid Bodies* that the *superficies* was *spherical*, this supposed as a thing certain, consisting in the *Earth*, or in part of the *Earth*. For *Archimedes* supposeth in his demonstration three things; 1. In the middle of it the *Earth* hath some kind of *Center*, and therefore is of a *spherical figure*. 2. That this is the nature of all *liquid bodies*, that the parts of them lying equally, or in an equal distance from the *Center* of the *Earth*, and continuous amongst themselves, the lesser pressed is expelled by the more pressed, which he sheweth from experience. 3. That every part of a *liquid body* is pressed by the *liquid body* above it, to the Perpendicular in respect of the *Center* of the *Earth*, if so be that this *liquid body* be descending or pressed by some other body. Besides these three Suppositions, *Archimedes* useth a certain *Geometrical Proposition*, which is not found demonstrated in the *Elements*, and therefore he demonstrateth the same, which is this: If any *superficies* be cut from whatsoever places passing through one *point*, and every *section* be the *periphery* of the *Circle*, having that *point* its *Center*, this *superficies* is *spherical*; whose *Center* shall be the *point* named. Now this is very easie to shew: For let the *superficies* of any *body* be cut through the *point* D in the plain I F K E P, and let the *line* of the *section* I F K E P be the *periphery* of the *Circle*, having it for its *Center*, and in every *section* made by D, let the *periphery* of the *Circle*, having the *Center* D, be found. We must shew that this *superficies* is *spherical*, and D is its *Center*, D its *point*, that is, all the *points* of this *line* are equally distant from the *point* D; for we may conceive as many *right lines* as we will draw from the *point* D to the other *points* of the proposed *superficies*. Therefore these must be demonstrated to be equal mutually one to the other, let any one of those drawn from D to the *superficies* be taken, and through that and through the *right line* D F let a *plain* be drawn, this *plain* therefore cutting the *superficies* will make the *periphery* according to the *Hypothesis*: wherefore that being drawn, shall be equal to the *right line* D F, and so we shall shew concerning all drawn from the *point* D, that they are equal to D F it self, by reason that they are all mutually equal one to another: from whence we infer, that this *superficies* is *spherical*, having for a *Center* the *point* D: for a *spherical superficies* is a *crooked superficies*, within which is a certain *point*, from whence all the *right lines* being drawn are equal at the *superficies*.

The demonstration of *Archimedes*.

See Scheme.

This premised, the *spherical superficies* of every liquid body is demonstrated in this manner: Let any consisting matter be E F G H, let D be the *Center* of the *Earth*, and let us conceive this *liquor* to be cut in a plain passage through D; let the *section* made on the *superficies* of the liquor be the *line* E F G H: but we must first shew that this *line* E F G H is crooked, *viz.* the *periphery* or *arch* of the *periphery* of the *Circle* whose *Center* is D: But if it may be brought to pass, that there may be no such *periphery*, the *right lines* drawn from D to that will be unequal: let the unequal drawn *lines* be D E, D G, to wit, D G will be greater than D E, and let D G be the greatest of all which are drawn from

from D, and let DE be the leaſt: let the other *right line* DF be drawn twice cutting the *Angle* GDE at EFGH, ſo that this *line* DF ſhall be greater than DE, but leſs than DG: then let the *periphery* or *arch* of the *Circle* IFKH be deſcribed in the *Center* D, the internal DE in this ſame *plain*, the *periphery* of which will cut the *right line* DE protracted beyond the *point* E, *viz.* in the *point* I, but the *right line* DG on this ſide G, *viz.* in the *point* K.

Moreover, in the *Center* D, the interval DL, which is leſſer than DE, let the *periphery* or *arch* LMN be deſcribed beneath or within the liquor in the *plain* IFKH; therefore the parts of the liquor contained within DLN, or about the *periphery* LMN by an equal diſtance are placed, and are continuous from the *Center* D; but thoſe parts which are about MN are more preſſed than thoſe that are about LM, becauſe they are preſſed by a greater weight, *viz.* a greater quantity of *water* being above them, than thoſe at LM.

Therefore the parts near LM being leſs preſſed, are expelled from the parts near MN, and theſe ſhall poſſeſs their place, neither ſhall the liquor conſiſt; but let the liquor be ſuppoſed to conſiſt and be quiet, there ſhall be then a liquor conſiſting; and not conſiſting which will be abſurd: wherefore the *right lines* drawn from D to the *line* EFGH are not unequal, but equal, and therefore the line EFGH is the *Arch* of the *Periphery* of the *Circle*, whoſe *Center* is D. The ſame is the demonſtration concerning all places cutting the *Superficies* of the *Liquors*, and paſſing through D, *viz.* it will ſhew the *Section* of the *Arch* of the *Periphery* of the *Circle* of the *Center* D. Now by reaſon that the *Superficies* of *Liquors* is ſuch, that if it be cut by *Planes* in any ſort paſſing by D, the *Section* may always be the *Periphery* of the *Circle*: Therefore it followeth from the aforeſaid demonſtrated *Propoſition*, that the *Superficies* of *Liquors* is *Spherical*, having the *Center* the *point* D, which is the *Center* of the *Earth*; therefore the *Superficies* of the *Ocean* is *Spherical*, having the ſame *Center*, which is the *Center* of the *Earth*; which will alſo be manifeſt from the confirmation of the following *Propoſition*.

Propoſition II.

The Ocean is not of a greater height than the Shores of the Earth are, and therefore the Earth and Water are almoſt of the ſame Altitude, high Mountains excepted.

The Earth and Water are almoſt of the ſame Altitude.

The truth of this *Propoſition* is demonſtrated from the former *Propoſition*: For if the *Superficies* of the *Ocean* be *Spherical*, and of the ſame *Center* with the *Superficies* of the *Earth*, and the *Sea* be no higher about the *Shores* than the *Earth*, therefore neither ſhall the middle of the *Ocean* be higher than the *Earth*, but its *Superficies* with the *Superficies* of the other ſhall make one and the ſame *Spherical Superficies*: But without the former *Propoſition* we ſhall ſhew this *Theorem a poſteriori* after this manner, as the preceeding *Propoſition* may be ſhewed from this, if that they confide not in the former demonſtration by reaſon of the aſſumed *Hypotheſis*.

1. Experience teſtifieth that *Water* being free, and not hindred, doth flow from more high places to places more low: If therefore the place about the Shore was not ſo high as in the middle of the *Ocean*, part of the *Sea* would flow from the middle of the *Ocean* to the *Shore*, and would neither conſiſt or be calm, which yet is not found in the tranquillity of the *Air*.

2. If that the *Ocean* far remote from the *Shores*, were more high than the *Sea* at the *Shore*, that *Altitude* would be diſcovered a far longer interval, than a *Spherical Superficies* doth admit of; yea, it would be ſeen from the ſame diſtance from which the parts of the *Ocean* intercepted between that *Altitude* and the *Shore* are ſeen. And experience teſtifieth, that it cannot be beheld from a greater diſtance, but that by *degrees* the more remote part is detected after the more near, when we come to *Mediterranean places* to the *Shore*: And by

by how much any part is more vicine to the *ſhore*, by ſo much it is firſt, or by a larger interval beheld from the *ſhore*: Therefore the part of the *Ocean* removed from the *ſhore* is not higher than that part that is nigh unto it. Wherefore the *Ocean* is of the ſame *Altitude* every where, both in the middle, and at the *ſhore*, and not higher than the *Earth*.

3. *Mariners* in the midſt of the *Ocean* and deep *Sea*, although they apply their *Mathematical Inſtruments*, yet find it no higher there than in the parts near the *ſhore*: which certainly could not be, if that the *Sea* had any *Altitude* elevated as a *Tower* or *Mountain*. For as by *Inſtruments* we find the *Altitude* of *Towers* or *Mountains* above the ſubjected parts of the *Earth*, ſo alſo if that there were any *Altitude* of the middle *Ocean* above the vicine parts, it could not be obſtructed, and avoid the ſubtilty of *Inſtruments*.

4. Alſo here and there in the middle of the *Ocean* are found *Iſlands*, and that in great number in ſome parts, which are near to the *Continents* or great *Iſlands*: Therefore the middle of the *Ocean* is not higher than the *Earth*, becauſe it is not higher than the Shores of thoſe *Iſlands*.

5. No cauſe can be ſhew'd, why *Water* in the middle of the *Ocean* ſhould be higher, and not flow into the *Chanels* of *Rivers*, if that their *Waters* be more depreſſed: For by experience we find that *Water* any where ſituated moveth to the vicine parts, and theſe are leſs high, which have been the cauſe of ſo many inundations.

From theſe I think we ſufficiently collect, that the *Waters* of the *Ocean* are not higher than the *ſhoars* of the Land. Seeing therefore the Altitude of very few *ſhoars* is elevated little more than the vicine *Mediterranean Land*, and in moſt leſſer, ſeeing that the Altitude of the Lands from the *ſhoars* to the *Mediterranean places* increaſeth and riſeth into *Hills*; thence we conclude, that the *ſuperficies* of the *Ocean* is not higher than the *ſuperficies* of the *Land*. Now that the Altitude of the *Land* from the *ſhoars* to the *Mediterranean places* augmenteth, or that the *Mediterranean places* are higher than the *ſhoars*, is proved from the flux of *Rivers*, moſt of which ariſe in *Mediterranean places*, and flow to the *Ocean*. So then at leaſt the *Mediterranean parts* are ſomewhat more elevated than the *ſhoars*, becauſe the flux is from theſe unto them; for *Water* floweth from the more high parts to places more inferiour. Now that ſome are ſomewhat depreſſed lower than the *Water*, we ſhall not go about to deny; but they are either defended by the height of their *ſhoars*, or by *banks* or other interpoſed *earth*. Now theſe *Banks* are raiſed for the moſt part, not becauſe of the great Altitude of the *Ocean*, being tranquillous and in its natural ſtate; but by reaſon of its impetuous motion, cauſed by the *Winds*, or from ſome other cauſe.

Corollary. *Corollary*. Therefore they are deceived who will have the *Waters* of the *Ocean* to be higher than the *Earth*, and flie to a miraculous providence, by which the inundation of the *Ocean* on the Land and drowning of the World is hindred and reſtrained: For we have ſhewed, that the *ſuperficies* of the *Water* and *Earth* are one and almoſt the ſame, to wit, *ſpherical*; and that many parts of the *Earth*, at leaſt the *ſhoars*, have a greater Altitude than the middle of the *Ocean*, and that this is the cauſe that the *Ocean* cannot overflow the Lands. Which greater Altitude, if it be elevated in ſome *ſhoars*, the Banks being broken, or the Water being augmented or forced to them in great abundance, cauſe inundations. Neither is it altogether impoſſible or contrary to nature, that the whole *Earth* ſhould be covered with *Water*, as we ſhall ſhew in the end of the Chapter.

Propoſition

Proposition III.

Why the Sea being beheld from the shoar, seemeth to arise in a greater Altitude and tumor, by how much it is more remote.

The middle of the Ocean by some said to be many miles higher than the Shoars.

It is a fallacy of the sight, or of the estimating faculty, which hath brought many into this errour: so that they have endeavoured to defend, that the middle of the *Ocean* is many miles higher than the *Shoars*. But it is a wonder that none of them have taken notice of daily Experiments in the ordinary course of our life, in which this fallacy is sufficiently manifest: For if that we look on any Pavement or floor stretched at length, or any row of Pillars, the more remote parts of the *Pavement* will appear more high than the vicine parts, so that from thence, from our place to the most remote, the *Floor* will seem by degrees more and more to elevate, which yet notwithstanding it is every where of the same Altitude. After the same mode it is with the *Waters* of the *Ocean*; for if on the *Shoar* you use a *Geodetical Instrument*, commodious to measure places withal, you shall find no elevation of the remote part of the *Ocean* above the *Shoar*, but rather a little depression; so that the Waters sink beneath the *Horizon* of the *Shoars*.

See Scheme.

Those that are versed in the *Opticks* declare the cause of the fallacy: Let A be the *Eye*, and let it survey the *pavement* or *superficies* of the Water extended at length unto the long space a e. Let the *Angle* a A e be divided into equal parts or four *Angles*, which are e A d, d A c, c A b, b A a from the right drawn A b, A c, A d, to wit, the more remote shall be far more great, as appeareth from the *Diagram*, *viz.* e d is greater than d e, and d e greater than b c, and b c than a h. Although these parts are very unequal, yet they will appear equal, because they appear under the equal *Angles* a A b, b A c, c A d, d A c, and the Estimative faculty will judge them to be removed an equal distance from the *Eye* A (in which there is a great deception) and therefore will judge the *lines* A b, A c, A d, A e, to be A f, A g, A h, A k, as they are equal a b, f g, g h, h k; whence the parts b c, cd, d e seem elevated, as if they were f g, g h, h k. Or more briefly, because the *Eye* is more elevated to behold Objects remote, than it is depressed at things near; therefore remote things are judged to be elevated, and those nigh, depressed: or because we compare the elevation of our Eye to parts vicine, therefore we judge them depressed; but we cannot so compare the *elevation* of our *Eye* to parts remote, wherefore they seem more elevated than in truth they are.

So therefore we see from this, that the *Ocean*, to one that beholdeth it from the Shoar, seemeth higher, by how much it is the more remote; from thence, I say, it is no probation that it is more elevated.

Some render another Reason, *viz.* that therefore a greater Altitude is to be attributed to the middle of the *Ocean* than to the *Earth*, by reason that they suppose that otherwise it cannot come to pass, that *water* should flow from the *Ocean* to *Fountains* of *Rivers*; which *Fountains* are in *Mediterranean planes*, seeing that no *water* floweth, but from an higher place unto one more low depressed. But I shall shew it to be performed by another way in the *Chapter* where I treat of the Original of *Rivers* or *Fountains*.

And so also any one may inferr, that the Mountain of *Teneriff* is not so high (as also other *Mountains*) as to be beheld in the *Ocean* for so long an interval at four *degrees*, except that the *foot* of the *Mountain* or the *Ocean* be higher than the *Sea* at the Shoar of *Teneriff*. But what Answer is to be returned to this is manifest from the *Eleventh Chapter*, whee we have treated of the Original or Heights of *Mountains*.

See Chap. 11.

Proposition

Proposition IV.

To exhibit the cause and Original of Gulphs, Bays, and Streights of the Ocean.

The cause of Gulphs, Bays, and Streights in the Ocean.

These *Bays* in proper manner of Speech are the *Sinus* of the *Land*, not of the *Ocean*, but rather Arms, branches, and procurrent parts of the *Ocean*: But more properly we may term those to be *sinus* or *Bays* of the *Ocean*, where the Ocean receiveth into it self *Peninsula's* of the Earth; as where it receiveth *Jutland*, the *Chersonesus* of *Malacca*, *Calisornia*, and the like.

But the usual mode of Speech hath so obtained, that contrary to the nature of things, the word is so taken in the first signification, and a *Sinus* or Bay of the *Ocean* is the same with a branch or procurrent part of the Ocean.

The cause of Bays.

The cause of these *Sinus* or *Bays* is, by reason that the extant parts of the *Earth* are in some places mutually rent from one another and divaricated; so that the part of the Earth interposed between the divaricated parts, is more depressed than the *superficies* of the *Ocean*; therefore the *water* always tending to the more depressed part, floweth into the divaricated parts, and runneth forward so far until it meeteth the elevation of the Earth: for here it can go no farther, and therefore it receiveth its end or bound.

The same is the cause of the *Streights* of the *Ocean* or *Sea*. The cause of the separation or divarication of the parts of the *Earth* (which is required to the existence of *Bays* and *Streights*) is the violent motion of the *Sea*, when it is forced by *Winds* or some other cause: which seeing that it is done almost every day, so that it beateth the Lands with its waves, thence it cometh to pass that in progress of time, in some parts of the Shoars the Land is so shaken, that it falleth on the rushing in of the Ocean, and maketh way for it: and if the *Land* adjoyning to the *shoar* be depressed, *Bays* do more easily arise, *viz.* when the *Land* of the *shoar* is broken through, the *water* will overflow the adjacent *Lands*, and so make a *Bay*, if that the *land* be so depressed, or consist of so much matter, which may easily be removed by the violent *waves*.

And so it is manifest, that *Bays* and *Streights* may be made and exist anew; but thence we may not conclude, that all *Bays* and *Streights* that are at this day were so generated: for it may be that some existed with the *Earth* it self or *Ocean*, and therefore coeval with the very *Ocean*. For there is no record of the making of any new *Bay* of the *Sea* or *Streight*, although the Ancient *Grecians* fabulously reported such concerning the generation of the *Gaditan* or *Herculean Streights*; *viz.* they said, that the Mountain *Calpe* on the *Spanish Coast*, and the Mountain *Abyla* on the *African Coast* were one *Mountain*, but separated by *Hercules*; whence they called these Mountains *Hercules Pillars*, and the Streights, *Hercules Streights*.

The Streights between *Sicily* and *Italy*.

But as concerning the *Streights* between *Sicily* and *Italy*, which the Ancients believed to be caused by an incursion of the *Sea*, we ought less to doubt, that such small *Streights* should be generated; for we deny not, but such like may be generated at this day. Also *Bays* may be made of *Streights*, and *Streights* may become *Bays*: For Example, If that either of the Mouths of *Magellans Streights*, or of the *Streights* of *Manilhas* should be obstructed, those *Streights* would become long *Bays*: on the contrary, if that the *Isthmus* between *Asia* and *Africa* should be taken away, then the whole *Red Sea* would become a *Streight*, through which a Ship might sail from the *Indian Ocean* into the *Mediterranean Sea*.

Proposition V.

Whether the Ocean every where be of the same Altitude.

That all the parts of the *Ocean* are of the same Altitude, being in its natural constitution, and all impediments removed, is manifest from the

first *Proposition*, by which we shewed, that the *superficies* of the *Ocean* is *spherical*, and that its *Center* is the *Center* of the *Earth*: hence it plainly followeth, that it must be of the same *Altitude* in all its parts. But here is a doubt, whether there be not some causes that may render some parts of the *Ocean* more high than other? This is most worthy of consideration; and is also of great moment, when we consult concerning the digging through of *Isthmusses*, and conjoyning parts of the *Sea*.

Many will have, that the *Ocean* and *Earth* is higher about the North, and lower about the *Equator*. So *Aristotle*, *lib.*2. *De Cœlo*, *Cap.* 2. they alledge this Reason, That the *Ocean* seemeth to flow from the North *Regions*, as from a Fountain. But we cannot conclude any thing certain from this: for whether the Northern *Lands* (especially the North *Channels*) be more high or lower than the *Channels* of the Lands near the *Equator* is yet doubted: neither is it sufficiently proved from the motion, because this is not general, or is not found in all the *Northern Regions*. And if this motion of the *Ocean* from the North should be granted, yet thence it would not follow, that the *Ocean* was there higher, for to avoid this excess of *Altitude*, the *Ocean* floweth from those places towards the *Equator*.

Now the original of the Opinion concerning the greater *Altitude* of the *North Land*, more than of others, seemeth to spring hence, because that the face being turned to the North, we discover the *Pole* elevated above the *Horizon* and our place; and therefore the *Pole* of the *Earth*, and the vicine tracts of the *Land*, in their supposition, is higher than other *Regions*.

Some determine the *Indian Ocean* between *Africa* and *India* to be higher than the *Atlantick Ocean*, which they endeavour to prove from the *Bay*, *viz.* the *Arabian* and *Mediterranean*: where also the doubt is to be considered, Whether the *Altitude* of the *Bay* be the same with that of the *Ocean*, or lesser, especially in the extream parts of the *Bay*, and chiefly in those *Bays* which are joyned by a narrower *Streight* of the *Ocean*.

The Indian and Atlantick Ocean higher than the Mediterranean.

But it is not improbable but that the *Atlantick* and *Indian Ocean* are higher than the *Mediterranean Bay*, especially in the extreams parts of this at *Asia Minor* and *Ægypt*. For the *Atlantick Ocean* floweth through the *Streights* of *Gades* into the *Mediterranean Bay*, and it is probable that the *Altitude* of the *Ocean* is somewhat greater than that of the *Streight*, because a free Influx is impeded in these. Here indeed will be a small difference, but then proceeding forwards in so long and large a tract between *Europe* and *Africa*, the depression of this *Bay* will seem to be made greater than that of the *Ocean*, especially when it meeteth many *Rocks*, *Islands*, and procurrent *Lands*, which repel the current *Water*, and therefore either diminish or beat back the Influx. Yea, if that be true, which is reported by credible Authors concerning *Sesostris* King of *Egypt*, *Darius*, and other *Egyptian Kings*, we ought no longer to doubt of this inequality of *Altitude*: For those Kings attempted to draw a Trench or Channel from the *Red-sea* into the *Nile*, so that by this passage a Navigation might be performed from the *Indian* and *Red-sea* through *Egypt*, and hence through the mouths of the *Nile* into the *Mediterranean Sea*, which would have offered great profit and conveniency to many Regions of the *Mediterranean Bay*: But they were forced to leave their enterprise, when it was discovered by those that were skilful, that the *Red-sea* was much higher than the interiour *Egypt*. Now if the *Red-sea* be higher than the *Land* of *Egypt*, it will also be higher than the *Water* of the *Nile*, and by consequence than the mouths of the *Nile*, and then the *Mediterranean Sea* it self, for that the water of the *Nile* is not of a lesser *Altitude* than the *Mediterranean*, is hence manifest that it floweth into it; wherefore the *Red-sea*, and therefore also the *Indian Sea* is higher than the *Mediterrean*, at least at the extream parts of it about *Egypt*, *Syria*, *Thrace*, and in the *Ægean Sea*.

More-

The Isthmus, which conjoyneth *Asia* and *Africa*, endeavoured to be cut by the Egyptian Sultans.

Moreover, other *Egyptian Kings* in times past, and of late the *Egyptian Sultans* and *Turkish Emperors* have consulted how to digg through the *Isthmus*, which conjoyning *Africa* and *Asia*, disjoyneth the *Mediterranean* and *Red-seas*: but the reason why they proceeded not, is reported to have been the *Altitude* of the *Indian* and *Red-sea* above the *Mediterranean*, and the *Coasts* adjacent to it, and therefore they feared least that the water flowing from the *Red-sea* should overflow and drown the *Regions* of those *Coasts*, especially *Egypt*, concerning whose low scituation all Writers do consent.

If therefore the *Isthmus* between the *Red-sea*, and the *Mediterranean* should be cut or dugg through, then by an open passage the *Indian Ocean* would immit much water into the *Mediterranean Bay*; but whether it could let in so great a quantity that there should be any danger of an inundation of the *Regions* adjacent to the *Mediterranean sea*, I doubt: For peradventure it may be thus; if that the *Indian Ocean* should let in somewhat overmuch, then the *Atlantick Ocean* would let in less through the *Streights* of *Gades*, from whose *Altitude* somewhat would be detracted, if that the motion were made from the *Indian Sea* into the *Mediterranean*.

Reasons why the Egyptian Sultans and Turks did not digg a passage through the *Isthmus*.

But although I deny not but that this may be, yet I suppose that the *Egyptian Sultans*, and the *Turks* were moved by other *reasons*, and Political Causes for the omitting the digging through of this *Isthmus*. As

1. The vast expence, it being forty *German miles*, and the *Earth* rocky, also banks must have been made by the advice of skilful *Artists*, which they wanted.

2. They supposed that the *Inhabitants* of the *Christian* part of the World, as the *English*, *French*, *Dutch*, *Italians*, *&c.* would have reaped more benefit by that means than they themselves: For then through that *Streight* they might have sailed into *Persia* and *India*, whereas now they fetch a vast circuit compassing all *Africa*, and have laden themselves with their rich *Commodities*, which they are now contented to have at *Aleppo*, being thither brought on *Camels* through the *Turks Territories*, and in many places receive *customs* for the same, which is no small benefit unto them.

See *Massius* in his third Book of his *Indian History*.

3. That the *Sultans* and *Turks* knew that the *Christians* excelled in the abundance of *warlike Ships*, which they were deficient in, and therefore feared least they should be invaded by a strong *Navy*, which might land a powerful *Army*, and so over-run their *Country*.

These were necessary to be explained concerning the *Altitude* of the *Mediterranean Sea* compared with the *Red-sea*, the *Atlantick* and *Indian Ocean*, by reason that some thence take occasion to maintain, that the *Altitude* of the parts of the *Ocean* is divers.

But we may confirm them also by another example, if that we may compare small matters with great. The *German Ocean*, which is part of the *Atlantick*, flowing between *Friesland* and *Holland* into a *Bay*, which although it be small in respect of the more noted *Bays* of the *Sea*, yet it is also called a *Sea*, and watereth the *Empory Amsterdam*. Not far from thence is the Lake *Harlame*, which is also termed the *Sea* of *Harlame*, whose *Altitude* is no less than the *Altitude* of that *Belgick Bay*, which we have spoken of, and sendeth a branch into the City of *Leyden*, where it divaricateth into many Trenches. Now seeing that neither this *Lake*, nor that of the *Belgick Sea*, do cause the inundation of the adjacent *Lands*; it is thence manifest that they are not higher than the Lands of *Holland*: But the *Inhabitants* of *Leyden* have experimentally found the *German Ocean* to be higher than these *Lands*, when they undertook to make a Trench or Channel from this City to the *Coasts* of the *German Ocean* near the Town of the *Catti*, (it is the space of two *miles*) that they might sail through this Channel, the Sea being conveyed into the *German Ocean*, and hence into various parts of the *Earth*; but when that they had perfected a great part of the Channel, they were compelled to desist, by reason that at length they found by observation that the water of the *German Ocean* was higher than the *Land* of *Leyden*, and the *Shores* of this *Ocean*; therefore the *German Ocean* is higher than the *Belgick Bay*.

The Water of the German Ocean higher than the Land.

But we must esteem otherwise of those *Bays* which flow between the *Lands*, not by an oblong, but by a broad tract, as the *Bays* or *Gulphs* of *Mexico*, *Bengala*, and others; that these are of the same Altitude with the *Ocean*, from which they are separated by no strait passages, is not to be doubted of. Although I am not ignorant, that the *Spaniards* formerly did question this latter, (*viz.* whether the *Pacifick Ocean* were higher than the *Bay* of *Mexico*) when they consulted of digging through the *American Isthmus*, or that of *Panama*, that they might have a free and convenient passage from the Bay of *Mexico* to *Peru*, *China*, and the *Indian Isles*, *viz.* the *Spaniards* feared least the *English*, *Dutch*, and other Nations should use this Streight, and stop the mouth of it, and so invade *Peru*.

Wherefore to conclude, it seemeth that we must determine that all the parts and broad Bays of the *Ocean* are all of the same Altitude (as the first *Proposition* proveth;) but that the long *Gulphs* or *Bays*, especially those let in through an anguſt Channel or *Streight* are somewhat more low, chiefly in the extream parts. Concerning which yet I could wish that more diligent Observations were made, *viz.* these are the doubts, 1. Whether the *Indian*, *Atlantick* and *Pacifick Ocean* be of the same Altitude; or whether the *Indian* or *Pacifick* be higher than the *Atlantick*? 2. Whether the *Northern Ocean*, properly so called, *viz.* that which is near to the *Pole*, or in the *frigid Zone*, be higher than the *Atlantick Ocean*. 3. Whether the *Red Sea* be higher than the *Mediterranean*? 4. Whether the *Pacifick* be higher than the *Gulph* of *Mexico*? 5. Whether the *Baltick Ocean* be equally as high as the *Atlantick*? The same should be observed concerning *Hudsons* Bay, Streights of *Magellan*, and such other. Concerning the *Euxine Sea*, we shall treat in the *fifteenth Chapter*.

See *Propoſit.* 1.

The continual *flux* and *reflux* of the *Sea*, and other fluxes, altogether cause the divers Altitudes of the parts of the *Ocean*, and in the same part in a diverse time and hours of the day. But these are external causes, and we at present only consider the natural constitution of the *Water*: moreover they do not so vary the Altitude in the *Ocean* it self, as it appeareth at the *shoars*.

Corollary. Therefore we cannot assent to *Papyrius*, *Fabianus* and *Cleomedes*, which made the greatest Altitude of the *Ocean* to be fifteen *stadia's*, (half a *German* mile) except we must take their Opinion concerning the profundity, and so *Altitude* is ill placed there for *profundity*.

Proposition VI.

The depth of the Sea or Ocean, in most parts may be sounded by the Load or Plummet; there being very few places whose bottom hath not been yet found out.

The depth of the Sea in most places may be sounded.

The profundity of the *Ocean* is various, according to the more or less depression of the *Channels* it is found $\frac{1}{80}$ of a *mile*, $\frac{1}{20}$, $\frac{1}{4}$, $\frac{1}{2}$; in very few places about a *German* mile, where they have not *line* enough to sound the depth, albeit here it be probable that it is not terminated at any vast distance. But yet we deny not, but that in the profound *Channels* there be as it were some hollownesses.

The profundity of the *Sea* is far lesser in the *Sinus* or *Bays*, than in the *Ocean*, which *Channel* is less profound or hollowed by reason of the vicinity of the Land; as for the same reason the Ocean is less deep at the *shoar*, than in places more remote from the Land, which happeth only by reason of the hollow figure of its *Channels*.

Of the Mariners Plumet.

Mariners sound the profundity with a *Plumet* of *Lead* in form of a *Pyramid* of about 12 pound weight, if that the *line* be of three or four pound, such as is sufficient unto 200 *perches*, although others require a *plumb* of more weight. Yet there may be a deceit in this Observation, if so be that the *line* being snatched by the *Vortices* of the waters, or *waters* themselves do not descend perpendicularly, but obliquely.

But

But where the profundity of the *Ocean* is so great, that neither *Cables* or *Chains* are sufficient is uncertain, although some have invented something for finding out of this: For they determine, that you must observe how much time passeth in the space whilst a *Plumet* of noted weight descendeth to the profundity of the *Sea*: Then you must apply a *Cork* or *Alder-pith* to the *Plumet*, or a blown-up *Bladder*, so that this may presently be separated from the *lead*, when that the *lead* hath hit the bottom of the *Sea*, and so an application being made, the *lead* must be let down again to the bottom, and the time must be noted until the *Cork* return to the *superficies* of the *Sea*. From this Observation, if it be compared with the observations made in another place, they suppose that the profundity of the *Ocean* may be found by the use of some *Canons*: But the uncertainty of the *Rules*, and the fallacy of the *Observations*, and the so great brevity of time is such, that I think the knowledge of the depth can never be obtained by this method. Yet this is sufficiently manifest, that the depth of the *Ocean* is no where infinite, but every where hath a bottom: For seeing that the *Earth* it self is not infinite, but round, and in a figure returning into it self, it is manifest that the profundity of the *Ocean* is not infinite; neither doth it extend from one part of the *superficies* through the *Center* to the opposite *superficies*, so that it may separate the parts of the *Earth* mutually from one another, because the *Earth* is heavier than the *Water*, and therefore the parts of the *Earth*, if that they were separated by the interceding *Earth*, yet presently would be conjoyned again.

But from the profundity observed hitherto in most places it is manifest, that it is almost equal to the *Altitude* of the *Mountains* and *Mediterranean places* above the *shoar*, *viz.* as much as these are elevated, and are extant above the *Horizon* of the *shoar*, so much are the *Channels* of the *Sea* depressed beneath it; or as much as the *Earth* riseth from the *shoars* towards the *Mediterranean places*, so much by *degrees* more and more is it depressed, even unto the places of the middle of the *Ocean*, where for the most part is the greatest depth. The profundity is changed sometimes in this, sometimes in that part, for divers reasons; 1. By reason of the *flux* and *reflux*: 2. With the increase and decrease of the *Moon*: 3. From the *Winds*: 4. From the ruin or subsidency of the *Channels* or *Shoars*; also if that the bottom of the *Channel* be made higher in progress of time by the fall of the *Sand* or *Mud*.

Proposition VII.

The Ocean hath no Fountains, but is contained within the Cavities of the Earth; yet it doth not remain always the same.

The Ocean hath no Fountains.

Experience testifieth, that *waters* of *Rivers* proceed from *Fountains* or *Springs*; and because that this hath been for so many *Centuries* of *years*, it thence necessarily followeth, that that *water* which continually floweth from the *Springs* to the *Sea*, returneth through subterranean passages, or some other ways to the same *Fountain*. After the same manner there were *Philosophers* in Old time said, that the *Sea* sprang from certain *Fountains*. Neither could the magnitude and perpetuity of the *Ocean* withdraw them from this Opinion; for they said, that it returned unto the same Fountains by some hollowness of the *Earth*, or by some other mode, that so they might render a cause of the perpetual *flux*. This Opinion may be answered after this manner: If that the *Ocean* have *Fountains*, they must either be in the extant part of the *Earth*, or in that part which is covered by the *Ocean*, that is, in the very Channel or bosom of the *Ocean*; but they are not in the extant part of the *Earth*, for Men have no where found them. Neither may you object, That peradventure they are in the unknown Lands of the *North* or *South*: for this would be a part of high confidence to require that to be granted, which carrieth no weight of reason with it, especially seeing, that at not a few of the *Northern Lands* the *Sea* is found frozen up with *Ice*, and in most of those

those *Regions*, hitherto discovered, no Springs are found: Therefore the *Fountains* of the *Ocean* are not in the extant part of the *Earth*. It remaineth that we prove, that they are neither in the part of the *Earth* covered with *waters*; that is, in the bosome of the *Sea*. If that they were in this, there would be no more distance from the *Center* of the *Earth*, than the *waters* of the *Ocean* it self, and therefore there would be no *flux* from them, but the water would rest in them, whose nature it is not to be moved from places depressed to places more high: For the *Fountains* of all *Rivers* are more elevated than the *waters* that they send forth.

But some may object, That this is a violent motion, because that the Channel of the *Ocean*, and the *Land* is perforated within with many hollownesses and pits, call them what you please, which proceed for a long Tract under the *Earth*, until they are let into some other place of the Channel of the *Ocean*: So that there are two Orifices of these Channels, which may have a sufficient great Latitude and Extension within the *Earth*, going forth into the Channel of the *Ocean*; therefore it may be, that the *water* from the *Ocean* may flow into one of these two *Orifices*, and some forth of the other, as from a *Fountain*, which may be illustrated by an easie *Diagram*: And by that reason that nothing hindreth but that there may be many of these subterraneous passages, and no absurdity thence followeth; therefore it may seem probable to some that there are many of these *Fountains* in the very Channel of the *Sea*. But this imagination is vain, and not agreable to the properties of *water*; for *water* having fallen into either of these Channels would not go forth by the other *Orifice*, but would rest filled in it, (except moved by some violent cause): For although water should be pressed and stirred, by water forcing in on the *Orifice*, yet it could not exonerate it self by the other *Orifice*, because that *water* incumbeth on this *Orifice* also, no less than the incumbing *water* at the former *Orifice*, which may thus be proved by experience. See Scheme. Let there be in any Vessel *water* A B C D, A B is the *superficies* of the *water* lying equally and spherically, but let in a stick R P E F into the middle of the *vessel*, which may perforate it by an oblique passage, so that the part of the *vessel* A shall be higher than the whole of the part of the *vessel* B, therefore the *water*, as well on the part A as on the part B, should, for example, flow through g h into this passage, and fill it up, and should not be effused through either of the *Orifices*, not through g, because this is higher; nor through h, because though it be more depressed than g; yet the *water* flowing from the part B, and perpendicularly tending to the bottom of the *vessel*, would prohibit the *influx*.

From these it is manifest, that the *Ocean* hath no *Fountain*, but is perpetually contained within its own Channel.

Objections. But somewhat may be objected against this, which is worthy of consideration: First, That at some part or other of the *Ocean* there is always a violent external moving cause, as *Winds*, *Fluxes*, *Refluxes*, mutations of the *Earth*, and the like. Therefore these cause, that sometimes in some one part of the *Ocean*, and sometimes in another, there is a greater *Altitude*, and abundancy of *water*, than in the other parts; and therefore that higher *water* falling into the *subterraneous passages*, is again poured forth into another part of the *Channel* of the *Ocean*, where there is a lesser *Altitude* of *water* by reason of that external cause, and where the incumbent *water* then less resisteth the eruption or efflux, because it is moved another way by an external cause: for although this may be, yet it cannot be proved by experience, neither can the contrary, that is this, be demonstrated to be so; therefore at least the truth is uncertain, and we must doubt concerning this Problem. Now that there are such *subterraneous pits* or *passages* in the *Channel* of the *Ocean* cannot be denied, and those places of the *Ocean* seem to shew them, to wit, where there is an immense profundity, seeing there is no such in the vicine parts. To this I answer, although we should admit of those *subterraneous passages*, yet therefore it doth not follow that we

we should grant, that they proceed to another part of the *Channel* of the *Ocean*, or go forth into it: and if that this should be granted, yet seeing that there are no such passages in all places, and that these external causes sometimes are predominate in one part of the *Ocean*, and sometimes in another there is no consequence from the objection, that the *Fountains* of the *Ocean* are in any certain place, but that it floweth sometimes from one part of the *Channel*, and sometimes from another; so that that *flux* continueth no longer than the external cause continueth.

2. Some one may thus seem to argue: The *flux* of the *Ocean* is perpetually discerned from the Northern Land or quarter toward the South, between *Europe* and the Northern *America*; also between *Asia* and the Northern *America*. Yet notwithstanding, no part of the *Ocean* or vicine place is to be found whereby it may come unto those Northern *Regions*. Seeing that therefore this *flux* is perpetual, neither doth the *water* come by a manifest way unto those *Regions*, whence the *flux* is made, therefore it seemeth necessary to conclude, that the *waters* come through *subterraneous passages* unto those Northern Regions, and so there to be effused from the holes of the *Channel*, as from a *spring*, and that the *water* moveth hence towards the South. There falleth in another cause taken from the former: For the *water* of the *Ocean* in the *Torrid Zone* is more heavy than that in the Northern places, by reason of the great abundance of *Salt*, as we have proved in the *Eighth* and *Twelfth Proposition*. Therefore the *water* or *Ocean* in the *Torrid Zone* doth more press through the *Orifices* of the *Subterranean passages*, than in the Northern *places*; and therefore in these places the water less resisting, suffereth the *water* to flow from the *Orifices* of the *Channels*. Unto this I answer, That that *flux* of the *Ocean* is not only from the North, as the *Objection* seemeth to inferr, and as some, especially the *Ancients* conceived of it, (who would have the *water* to flow in four *Channels* from the very *Pole*, as also some *Geographical Maps* do exhibit it) neither is it continual, but is observed by reason of the frequency of Northern *Winds*: moreover the great and perpetual abundance of *Snow* and *Rain* in those places augmenteth the *water*, and causeth it to flow towards the South. Add likewise, that in other parts another motion of the *Ocean* is found, concerning which see the following *Chapter*.

3. It seemeth not absurd, but rather most true, that all the *Fountains* of *Rivers* taken together, disburthening themselves into the *Ocean*, are the very *Fountains* of the *Ocean*: For seeing that in perpetual progress of time, so great an abundance of *water* floweth from them into the *Ocean*, questionless the *water* cometh from the *Ocean* to the very *Springs* and *Channels* of the *Rivers*, partly through the *Subterranean passages*, and partly by *Rains*.

4. It may seem to prove, that the *Fountains* of the *Ocean* may be in the very *Channel*, because that in the bottom of the *Ocean*, in some parts sweet or *fresh water* is found, which could not be but by some *Fountains* flowing in the bottom. *Linschaten* relateth, that in *Ormus* fresh *water* is drawn by divers in the *Ocean*, at the depth of four or five *Orgya*: and the like *Fountains* are found in other parts of the *Ocean* and *Bays*. Unto this I answer, That few such *Springs* have yet been found, which suffice not the vast *Ocean*. Neither do we dispute concerning these *Fountains*, as we have said before.

Hence it is manifest, that in some sort it is true; and we may well say, that the *Ocean* hath *Springs*, but not in that sense that we are wont to speak concerning the *Springs* of *Rivers*, and in which we would have our Proposition to be taken. Hence also it is manifest what we ought to think concerning that Question, *viz.* Whether the *Sea* is always one and the same, and perpetually so remaineth, or whether it be another thing, whose parts are perpetually consumed and generated again?

Proposition

Proposition VIII.

The saltness of the Waters proceedeth from the particles of Salt, which are mixed with it; but whence they may exist or are so augmented, is the doubt.

Of the Saltness of the Sea-water.

Experience proveth the first member of the Proposition, by which it is commonly known that *Salt* is made of *Sea-water*, by decoction of the *water*, or by the heat of the *Sun*, or the fervour of the *Fire:* In *Germany* and other places the *water* is separated by the help of the *Fire:* In *France*, the greater heat of the *Sun* performeth the same, the *Ocean* being let into certain Trenches made, in which in the space of some *Months* the *water* being exhaled by the force of the *Sun*, concreted and hard *Salt* is found. On the *shoars* of many Regions, as of *England* and other parts, plenty of *Bay-Salt* is found, the *Sea-water* continually overflowing those *shoars*, leaveth daily some particles or humors, from which the *water* exhaleth, and concrete Salt is left, whose blackness is taken away by boyling; although it be washed away and dissolved from many Coasts by the violence of the *Ocean*, which is the cause that it is not found on all Coasts. Seeing therefore that this Experiment is common, *Aristotle* had small reason to alledge a false Experiment concerning a *waxen Vessel* let down into the *Sea*.

Of Salt, and of what made.

Hence it is manifest, that the proximate cause of the Saltness of the *Sea-water*, or the true subject of this *saltness* is the *Saline particles*, which are contained in that water. Therefore the *Aristotelians* with their *Master* spake improperly and obscuredly without cause, when they defend and say, That the *saltness* of the *Sea* proceedeth from the adustion of the *Sea*, caused by the *Sun*, or from the adust *particles*. But of this more anon.

The chief difficulty and controversie is concerning the other member of the *Proposition*; Whence these *Salt particles* of the *Ocean* exist.

Aristotle supposeth, that dry exhalations or fumes (all which he saith are of an adust and Saline nature) elevated from the *Earth*, are mixed with humid *vapours*, and when that these have met together in *Rain*, they fall with these into the *Sea*, and that thence proceedeth the *saltness* and *Salt particles* in the *Sea*; and on this account he seemeth to defend this Opinion, because that from thence he may render a reason, why the *Sea* is always *salt*.

See *Aristotle*, lib. 2. chap. 7.

But other *Peripateticks* will have it, and so do endeavour to draw *Aristotle* to their part, that this *saltness* is in the *Sea* it self, by reason that it is perpetually scorched by the *heat* of the *Sun:* a sign of which is, that the *water* is found by so much the less *salt*, by how much it is more deep or remote from the *superficies*; for in the *superficies* we discover it to be most *salt*.

Both these Opinions are obstructed with great difficulties and absurdities, so that it seemeth wonderful that the minds of *Philosophers* and Learned men could acquiesce in them. First, the opinion of *Aristotle* is thus obstructed, that *Salt-rain* should be found in the *Ocean*, which never yet was found to be void of all taste of *Salt*. Secondly, the *Sea* should be less *salt*, when it raineth not for a long time; the contrary of which yet is found.

The other Opinion hath these difficulties; 1. It is false, that the *waters* of the *Ocean* are found the less *salt*, by how much they are nigh to the bottom; for there are few places, *viz.* in those bottoms where Springs of *fresh water* do flow. 2. Experience testifieth, that *fresh water*, although long exposed to the *Sun* or *heat* of the *Fire*, yet doth not become *salt*. This Objection *Scaliger* endeavoureth to avoid by an over-nice subtilty; for he saith, that this hapneth in these Observations by reason of the exiguity of the *water*, which doth not grow thick, but resolveth: For although you take a great quantity of *water*, and that you provoke with a light and gentle *fire*, that the resolution may be impeded, yet the *water* acquireth no *salt* taste. 3. *Lakes* and *Marshes*, though heated by the *Sun*, yet wax not *salt*. This Objection also *Scaliger* endeavoureth to avoid, saying, that this hapneth by the succession of *fresh water*. And

And the same is found in those standing *Pools* and *Lakes*, which only proceed from *Rain* or *Snow* dissolved, where there is no place for that refuge of succession for those *Lakes* are rather dried, when that it raineth not for a long space, than turned into *Salt*, or rendred *salt*.

Therefore rejecting those false Opinions concerning the cause and original of *Salt* in the *Ocean*, let us lay hold of one of the most probable Opinions, with little or no difficulty in it, *viz.*

1. That these *particles* are Coeternal with the very *Ocean*, and therefore we should no more dispute concerning their original, than concerning the original of the *Ocean* it self, the *Earth*, yea and of the original and generation of the World.

2. If that this Opinion be less complacent, we may make choice of another, *viz.* that these salt particles are here and there pulled from the *Earth*, and so dissolved into *water*. Now it is certain, that there are many *saline Mountains* or *Rocks* in the bosom of the *Sea*. The whole Isle of *Ormus* is nothing else but a white and hard *Salt*, of which they make the Walls of their Houses, and therefore no *Fountain* of fresh *water* is found in that Isle. And none can be ignorant, how that many *mines* of *Salt* are found on the Land; and we have related concerning some in the *Eleventh Chapter*; but we need not particulars. Let us consider the whole *Earth*, the greatest part of which is nothing else but a *Salt*; for it hath its consistency from *Salt*; for the *Chymical Philosophers* do rightly prove, that the consistency and compaction of every thing proceedeth from *Salt*; and Experience is answerable to the Assertion: for if that you take an hard piece of *Earth*, and burn it to *ashes*, much *Salt* will be found in it.

Isle of *Ormus* a salt Rock.

The greatest part of the Earth hath much Salt in it.

Nothing can be alledged against this Opinion that is of any value, and is not easily refuted: for some say, that it is impossible that those *salt* parts of the *Earth* should perpetually suffice, and should not at some time or other be consumed by the water of the *Ocean*, which continually taketh away some part of them? Unto this I answer, That the *Salt* of the *Ocean* is not consumed in so great abundance, that it should stand in need of much instauration; and if that any be consumed, yet notwithstanding that is laid up in another place, seeing that it is not removed out of the *Earth*.

Proposition IX.

Whether that Water be the fresher in the Ocean, by how much it is nigher the bottom? and why in some parts of the Ocean, fresh Water is found in the bottom?

Unto the first I Answer, That experience doth not testifie concerning that sweetness, but in some places, of which the other Question speaketh; that in these places, in the bottom of the *Sea* are *Fountains* of fresh *water*, I have sufficiently said; for it cannot naturally be, that the more *Salt-water* should exist above water less *Salt*, seeing that that is more heavy.

Of the freshness of Water in the Sea.

Those places of the *Sea*, where *fresh water* is found to spring at the bottom, may be collected by those that are studious, from the Writers of *Geography*.

Proposition X.

The Water of the Ocean becometh less salt by how much it is nearer the Poles; and on the contrary, the more salt, by how much it is more near the Æquator *or* Torrid Zone.

Although this may be understood of most parts of the *Ocean*, yet the *Proposition* admitteth of some exceptions. The cause of this inequality in saltness is sixfold.

The Causes of the inequality of the saltness of the Sea in different places.

1. That the heat of the *Sun* in the *Torrid Zone* lifteth up more vapours from the *Ocean* into the *Clouds*, than in the Northern places, which are the vapours of fresh-water; because that the *particles* of *Salt*, by reason of their gravity, are not so easily lifted up. Seeing therefore that from the *Water* of the *Ocean* of the *Torrid Zone*, or where the place is more near the *Torrid Zone*, so much the vapours are separated by the heat of the *Sun*; thence it cometh to pass, that the water that is left is found more *salt* there, than in the Northern places, where there is not so much fresh-water separated by reason of the weak heat of the *Sun*.

The 2d Cause.

2. *The second Cause* is the *heat* or *cold* of the water; for the same *numerical water*, or *salt meat*, as also *pickled meat*, *sauce*, and the like, afford a more sensible *saltneſs* to the taſt when they are eaten hot, than when cold; for the *heat* or *particles* of the *fire* do move and render the particles of the *salt* contained in such meat, more acute, and separates them from the admixtures, whence they bite and prick the Tongue more sharply. Now because the *water* of the *Ocean* is the more *hot* by how much it is nigher the *Æquator*, or the *parallels* of the *Sun* at every day; and contrariwise the more *cold*, by how much it is more near the *Pole*; thence it followeth that *waters*, though they should contain the same quantity of *salt*, yet they must seem and appear so much the *salter* to the taſt, by how much they are nearer to the *Torrid Zone*; and by how much they are more near the *Pole*, by so much they have less sensible *Salt*.

The 3d Cause.

3. *The third Cause* is the more or less quantity of *Salt* in the diverse parts of the *Channel* of the *Ocean:* for as we find in the parts of the *Earth*, that there are not pits of *Salt* in them all, neither where they are found is there the like quantity of *Salt*, must be held concerning the part of the *Earth* that the *Sea* washeth or covereth, that is, the *Channel* or the *Shoars:* where there is therefore most quantity of *Salt* or *Mineral* in the *bottom* or *shoar* of the *Ocean*, there the *water* is more *salt*, because that it is impregnated with a greater quantity of *Salt*. So the Isle of *Ormus* consisteth all of *Salt*; therefore the adjacent *Ocean* hath very *Salt waters*. But whether there be greater plenty of *Salt* in the *Channel* and *shoars* of the *Ocean* in the *Torrid Zone*, or more *saline Mines* than in the North, is very doubtful, by reason of the want of observation; yet it seemeth probable unto some, that there is greater quantity of *Salt* in those places, by reason of the greater heat of the *Sun*, by which the parts of the *water* are separated from the *Terrestrial* and *Salt*; but this is a deceitful sign.

The 4th Cause.

4. *The fourth Cause* of the unequal *saltneſs* is the frequency or scarcity of *Rains*, unto which we may add *Snow:* and in the Northern places *Snow* and *Rain* is frequent; in the places of the *Torrid Zone* they are less frequent in some parts of the year, and in othersome they are almost continual. And therefore in these places, in the *pluvial Months*, the *water* of the *Ocean* is not so *salt* on the *shoar*, and hath less *Salt* in it than in the *dry Months*. Yea in many Regions of the Coast of *Malabar* the *Ocean* is fresh in the *pluvial Months*, by reason of the abundance of *water* that floweth from the top of the Mountain *Gatis*, and falleth into the *Sea:* for this very reason, in divers Seasons of the year the same *Ocean* is of a various *saltneſs*; yet because in the Northern places, the *Rains* and *Snows* are continual throughout the whole year, therefore this *Sea* is less *salt* than in the *Torrid Zone*.

The 5th Cause.

5. *The fifth Cause* is the dissimilary solution, or unequal faculty of the *Water* to dissolve this *Salt* and unite it to its self; for hot *water* sooner uniteth *Salt* unto it self than cold *Water:* although therefore in the *Northern places* of the *Ocean*, the *shoars* and *Channels* of the same contain more, or the like quantity of *Salt*, that those places of the *Torrid Zone* do; yet because the *water* is there more cold, it is not so able to dissolve and unite the Salt to it self so subtily, as the *water* in the *Torrid Zone*, which is more hot.

6. *The*

The 6th Cause.

6. *The sixth cause* is the exoneration of many and great *Rivers* into the *Sea*; but this cause only taketh place in the parts of the *Ocean* that are vicine to the *shoars*; but is not discovered in the remote parts: So *Mariners* affirm, that the *Ocean* on the Coast of *Brasilia*, where the *Silver-River* disburtheneth it self, loseth it *saltneſs*, and affordeth fresh *waters* fifteen miles distant from the *shoar*. The same is observed of the *African Ocean* on the Coasts of *Congi*, where the River *Zaire* exonerateth it self, and of many more Rivers. Unto these add runing *Fountains* in some parts of the bottom of the *Ocean*.

These are the Causes which seem to concur to the variety and diversity of *saltneſs* in divers parts of the *Ocean*, from which the saltness of every one of the *Seas* may be explained.

From whence also it is easy to give an account, why the *water* of the *German* and *Northern Ocean* is less apt to separate *Salt* from it self by coction, than the *water* of the *Spanish Ocean*, the *Canary Isles*, and that of *Cape Verd*, (whence the *Dutch* fetch *Salt* in great abundance, and transport it into the Northern Regions) *viz.* this *Ocean* is more near the *Torrid Zone*, and receiveth water from the *Ocean* of the *Torrid Zone*; the other is more remote from the *Frigid Zone*: yet I cannot deny the constitution of the *Channels* themselves to be more or less *saline*. The *Sea-water* at *Guinee*, in the *Ethiopick Ocean*, affordeth *Salt* at one coction as white as *snow*, such as neither the *Spanish Ocean*, nor any other in *Europe*, do produce at one coction or boyling.

Proposition XI.

Why Rain-water in the middle of the Ocean is found sweet; but the water which we separate from the Marine or Salt-water, either by decoction or distillation, is yet notwithstanding found salt, when yet the Rain-water proceedeth from the Vapours exhaled from the Sea.

Fresh-water abstracted from Salt-water.

The Learned *Chymists*, or true *Naturalists*, have hitherto laboured in vain, that they might find out an Art by which they might distill and abstract *fresh water* from the water of the *Ocean*, which would be of great advantage; but as yet their Labours have proved fruitless: for although, as well in the decoction as distillation, *Salt* may be left in the bottom of the Vessel, yet the *water* separated by *decoction* as well as *distillation*, is yet found *salt*, and not fit for men to drink, which seemeth wonderful unto those that are ignorant of the cause. Yet *Chymistry*, that is, true *Philosophy*, hath taught the reason; for by the benefit of this we know that there is a twofold *salt* in Bodies, or two kinds of *salt*, which although they agree in taſt, yet they much differ in other qualities: one of these *Artists* term *fixed*, the other *volatile salt*. The *fixed salt*, by reason of its gravity, is not elevated in *distillation*, but remaineth in the bottom of the Vessel; but the *volatile salt* is full of spirit, and indeed is nothing else but a most *subtile spirit* that is elevated by a very light *fire*, and therefore in the *distillation* ascendeth with the fresh water, and is more firmly united by reason of the subtilty of the *Atoms*: neither is this *volatile salt* found only with *fixed salt* in *Sea-water*, but almost in all Bodies, as *Chymistry* proveth by experience; but in some in a greater, and in othersome in a lesser quantity; in a greater quantity in sharp tasted Herbs, in a lesser in oily Herbs. Therefore difficulty consisteth in the separation of this salt spirit or *volatile salt* from the *water*.

But why the *Marine water* in the midst of the *Sea* is no less fresh than on the *Land*, seeing that yet it is generated by abstraction of the *exhalations* of the *Ocean* caused by the fervour of the *Sun*, or from some subterraneous *fire*, which evaporation doth little differ from *distillation*.

The cause seemeth to be fourfold: 1. A slow operation, by which the tenuous part is only elevated from the *Ocean*, which although it containeth a *saline volatile spirit*, yet it hath it in less quantity, than if that the

exhalation were caused by a more forcible heat. 2. The long way that this *vapour* passeth through, before that it arriveth unto that *Region* of the *Air*, where it is condensated into *rain*, in passage it is possible that the *saline spirit* is by *degrees* separated from the *watery particles*. 3. The admixture of other *watery particles* existing in the *air*. 4. A *Refrigeration*, *Coition*, and *condensation* of the *vapour*: for these exhalations exhaled from the *Ocean* by degrees are more and more refrigerated, and being conjoyned with other obvious and admixed vapours, they condense into a more thick *vapour* or *cloud*: in this *Refrigeration* and *condensation* or *coition* of the *saline spirit* with the *fiery particles* they fly into the more exalted part of the *Air*.

Now why the same is not performed in *distillation* (where the vapours exalted are also condensed) the cause is, 1. That by reason of the small passage, the *saline spirit* is as yet over straitly conjoyned to the *watery particles*. 2. That the *vapour* restrained in the *vessel*, admitteth not a free passage to the evolant spirit.

Proposition XII.

Sea-water is more ponderous than fresh water, and the water of one Sea is more heavy than another.

Sea water more heavy than fresh water.

The cause is manifest from what hath been said, by reason that the *Sea water* containeth a fixed *salt*, which is a far more weighty body than fresh *water*. And we have shewed that in divers parts of the *Sea*, there is a divers quantity of *salt*. Yet doth it not follow, that *water* is more heavy by how much it is the more *salt*, which doth not augment the gravity, but lesseneth it, and yet rendreth the *water* very *salt*.

Proposition XIII.

Salt water doth not so easily freez as fresh, or a greater degree of cold is required to the congelation of Sea water than of fresh.

Salt water doth not so soon freez as fresh.

Experience sufficiently sheweth this against the *Aristotelians*, who defend that *water* is so much the lesser obnoxious to congelation, by how much it is the more pure, and therefore should more easily congeal, as receding more from the *elementary water*, which is false. Now the cause is, that in the *salt* it self their is a certain *spirit*, which resisteth *congelation*, and being seperated from the *salt*, admitteth of no *congelation* from the hardest *frost*, as those that are skilful in *Chymistry* know. For the *spirit* of *salt* is a medicament sufficiently known, and of frequent use.

Proposition XIV.

Why the Ocean is not bigger, seeing that it receiveth so many Rivers.

The cause is, 1. That the *water* returneth to the *Sea*, through *subterraneous* passages unto the *fountains* of the *Rivers*, as shall be explicated in the following *Chapter*. 2. Because that many vapours are elevated from the *Ocean*, whereof many being resolved into *rain* fall into the *Ocean*, and part on the *land*.

Proposition XV.

Certain parts of the Ocean differ in colour.

The water in the Ocean in all places not of one and the same colour.

Experience testifieth, that in the *Northern places* the *Sea* seemeth of a more *black colour*; in the *Torrid Zone*, of a *duskish colour*; in other places of a *blew*. About certain shoars of new *Guinee* the *Ocean* is found of a *white colour*,

lour, in some other place of a *yellow*. In *Streights* the *water* appeareth to incline to *white*, at the *Shoars* of *Congi* not far from *Bay a D'Alvaro Gonzales* a *Rivulet* or an *Arm* is disburthened into the *Sea* of somewhat a *Rediſh colour*, taken from a *mine* of *red earth*, through which it floweth. But the *Arabian Gulph* called therefore the *Red Sea*, by reason of the property of the colour, some will have the denomination taken from *King Erythreus*, others from the splendour which the *Raies* of the *Sun* repercussed doth effect. But the more probable opinion, and that which is confirmed from experience, is, that the redness doth arise from the *sand* of a red colour, which is found in the bottom of this *Sea*, and on the *Shoars*, and is frequently admixed with the *water*. The cause of this admixture which seemeth contrary to the ponderousness of *sand* is the vehemency of the *flux* and *reflux* of the *water*; or its swiftness and agitation in this *Sea*; by which it cometh to pass that the *sand* or *gravel* is agitated and moved up and down, and so hindred by the continual motion of the *Sea*, that it cannot rest. *Mariners* affirm that the *water* of this *Sea* sometimes appeareth as *red* as *blood*, but if taken up in a *vessel*, the sand will sink down, and then the *water* appeareth otherwise. It often happens that *storms* from the *Red Sea* rushing into *Arabia*, or *Africa*, carry with them so great an abundance of *sand*, and cast it on the *earth*, that it covereth whole troops of *men* and *beasts*, whence proceedeth the true *Mummie*.

The water in the Red Sea only red by reason of the red sand in it.

Whether from the same or another cause the *Sea* between *California* and *America* be termed red (*Vermejo*) I have not as yet found it observed by Writers.

Proposition XVI.

Certain peculiar things are found in certain parts of the Ocean.

Of things in the Ocean peculiar to certain places.

The *Sea* termed *Di Sargasso* by the *Portugals*, which beginneth not far from *Cape Verd* in *Africa*, about the *Isles* of *Salt*, and extendeth it self from the 20*th*. *degree* of *Northern Latitude*, unto the 34*th*. *of South Latitude*. The colour of this *Sea* seemeth to be *green*, which is not the colour of the *Sea* it self, but of a certain small *leaved herb* in the bottom of it, called by the *Portugals*, *Sargasso*. The leaves of this weed mutually complicated one into another, swim on the face of this *Ocean* in so continued a tract, that the *water* can hardly be seen, so that the *Seamen* afar off discovering this *Ocean*, take it for an *Island*, and *green Land*, neither can they pass through this knot of *weeds* except that they be helped by a moderate wind at least: the *herb* beareth a small *berry*, whence it ariseth is not yet known. Seeing that this *Sea* is not so near any *land*, that it should have its original from them, neither is it probable that it should come from the bottom of the *Sea*, by reason that the profundity of this *Sea* is such, that in many places it exceedeth the length of any line or cord. In the *Ocean* not far from the *Promontory* of *Good Hope*, are many floating *red-like shrubs* of a great thickness discovered, unto which the *herb Sargasso* is implicated. *Seamen* take it for a certain, that if they see them thereabouts, that they are near to the *Promontory of Good Hope*, or else have just past it.

Coral found on the Shoar of *Madagascar*.

On the Shoar of the *Isle* of *Madagascar* the *Ocean* casteth up *red* and *white Coral*, which augment like *shrubs* under the *water*, and although that they be soft in some places, yet between *Madagascar* and *Africa* there are reported to be Rocks of hard *Coral*.

In the *Baltick Ocean*, nigh to the Shoar of *Borussia*, the Shoar casteth forth most excellent *succinum*, which the *Inhabitants* are taught, when certain *winds* do blow, to draw up with certain *Iron hooks*.

Amber only in the Ocean in the *Torrid Zone*.

The *Ocean* casteth up *Amber* only in the *Torrid Zone*, *viz.* at the *Shoar* of *Brazile* (where a peece of 500 *l. weight* was taken up by a *Dutch Soldier*, and presented unto *Count Nassaw*) at the *Isle* of *Madagascar*, at *Cape Verd*, at the *Isle* of *Maurice*; at the *Isle* of *Sumatra*, and other *Indian Isles*. *Garcias*

as relateth that a piece of 200 *l. weight* was found; yea that some *Islands* consist wholly of *Amber*, but he doth not name them.

In the *Æthiopick Ocean* at *Guinea*, *Congo*, and *Angola*, this is peculiarly observed, that at the sides of the *Keil* of the *Ship*, whilst that they remain there, *green Cockles* like unto *grass* do stick, which hindreth the sailing of the *Ships*, and eateth the *wood*.

On the Coast of *Languedock* in *France*, Birds unshaped first of all, then by degrees they receive form, and fixing of their *bill* in the *wood*; when they begin to move, by degrees they are pulled off, and swim on the water like *Geese*.

The excrement of the *Ocean*, termed the *Scum* of the *Sea*, is found floating in many places; but in some in greater quantity than in others.

Serpents on the Coast of *Malabar*.

On the Coast of *Malabar*, and at *Cambaja*, Serpents are discovered on the *superficies* of the *water*: this is a sign to Sea-men, that they are near to those Regions.

About four miles from *New Spain* many *Roots*, *Bulrushes* and *Leaves* like unto *Fig-leaves* float on the *water*, which they eat, and are in tast like unto *Coleworts*.

In the description of the first Navigation of the *Dutch* unto the *Streights* of *Magellan*, we read that on the 12*th* of *January* in *Anno* 1599. the water of the *Ocean* not far from the *Silver-River*, or *Rio de la plata*, in *Brasil*, appeared of a *red* and bloody colour; but being drawn up in a *bucket*, or the like, when that they had more throughly viewed it, they found that an innumerable multitude of *Worms* of a *red* colour were contained in that *water*, and being taken up in the hand they leaped like unto *Fleas*: And these Sea-men call *Sea-fleas*; and they are supposed to come from an innumerable company of small *Grabs*, which being found on the *South Continent*, fill the Sea.

Here is no place to treat of the *Animals*, of which there are various kinds in divers places of the *Sea*.

Proposition XVII

Why the Sea in the Night season seemeth to glitter, especially if that the Waves be raised the more vehemently by the Winds.

The Sea in the Night seemeth to glitter or shine.

This question requireth the knowledge of that difficulty concerning the causes of Colours. Divers are the resolutions of *Philosophers* concerning them; but as for the explication of the proposed *phenomenon* or Question, that Opinion seemeth the most commodious, which sheweth how *Colours* do exist, or rather appear from a certain and various motion; but we leave the accurate explication of the same to Naturalists.

Proposition XVIII.

The Ocean, or rather all Water casteth out Terrestrial Bodies on the shoar, especially in the Full Moon.

Terrestrial bodies are cast out of the Ocean on the Shore.

It is not difficult to render an account of this property, which Experience sufficiently testifieth: For *Water* is never without some *motion*, which if it be swift, and towards one quarter, it carrieth *Terrestrial bodies* with it, until it meeteth with the *shoar*; where, by reason of the ceasing vigour of the motion of the *water*, those *Terrestrial bodies* are laid down; but in the *Ocean* the *Waves* are carried hither and thither. By these the *Terrestrial bodies* are carried after the same mode; and because that all *Waves* tend to some *coast* of Land, therefore all *Terrestrial bodies* are carried towards the *shoar*.

In

In the Full *Moons* is the greatest motion of the *Ocean*: therefore vain is their Opinion, who believed the *Ocean* to be an *Animal*, and to have sense, by which it purgeth it self from all *dregs*, *Terrestrial bodies*; but here the cause is sufficiently manifest.

CHAP. XIV.

Of the Motions of the Sea in general, and in particular of the Flux and Reflux.

Proposition I.

Water hath no natural Motion, except one, by which it moveth from a more higher place unto those that are more low; but if the vicine place or body be equal, or of a greater Altitude than the superficies of the Water, then the Water naturally resteth, that is, it is not moved, except that it be compelled by a violent cause.

Water hath no natural motion, except one.

THE truth of this *Proposition* is manifest from Vulgar experience; for if that a *vessel* containing *water* be moved, the *water* so long fluctuateth in it until no part be higher than the other, that is, until they compose a *Spherical figure* or *superficies*, as we have said in the *Thirteenth Chapter*. For although this Motion hath a violent cause, *viz.* the *motion* of the Air about the Earth; yet because that there is a great question concerning this cause, and it is so manifest in the *water*, that it seemeth not to come unto it from an external cause, so for to distinguish this motion of the *water* from other *motions*, we term it Natural. Now this motion is unto that quarter, unto which the place more depressed is scituated.

Proposition II.

When part of the Ocean is moved, the whole Ocean is moved, or all the other parts of it are also moved; but by so much the more that every one is nearer the part moved.

For because that if part of the *Ocean* be moved, it doth necessarily change place, and therefore this place is more low than the place of the *vicine water*, this nearer *water* shall be moved into this place, and the vicine *water* of that into the place of that, and so forward in the other parts: But there is lesser motion in the places of the more remote parts.

Proposition III.

To observe the quarter into which the Sea that is moved, tendeth.

The quarter into which the Sea that is moved, tendeth.

Chuse a time, if you can, when no violent Wind bloweth, and cast into the *Water* a body almost of the same gravity with the water; let the place be observed where it was cast in, to wit, let the Boat remain there immovable: then when that this body is carried by the *Sea* a moderate space from the place where it was cast in; then let another *Boat* be placed at the place of that, and let the *quarter* be observed into which the scituation of this second *Boat* vergeth from the former: For this also shall be the quarter, in which we say that the *Sea* at that time is moved.

Proposition

Proposition IV.

The Motion of the Sea is either direct, or a Vortex, or a Concussion.

I call that direct which tendeth unto some quarter; a *Vortex*, when the *water* moveth into a round, and is in some part rejected: a *concussion*, when it trembleth. But laying aside the two latter unto the end of the *Chapter*, we shall treat of the direct motion, and therefore we shall call this by a general term, the *Motion of the Sea.*

Proposition V.

Of the Motions which we find in the Sea, some are general, some proper and singular, other some contingent.

General, proper and singular motions of the Sea.

I call that General which is found almost in all the parts of the *Ocean*, and that at all times. I call those proper and special *motions* by which only some parts of the *Ocean* are moved, and they are twofold, *perpetual* and *anniversary*: the former are those which persist without mutation or cessation; the other, which are found at certain *months* or *days* of the year in some certain *Sea*.

I call those *motions* of the Sea *contingent*, which without any certain order sometimes do cease, and other some begin; such are infinite.

Proposition VI.

Wind is the cause of the contingent motion of the Sea, forcing the Sea to a quarter opposit to the Wind; neither is the Sea ever free from such motions.

Wind is the cause of the motion of the Sea.

For seeing that the Air toucheth the *Sea*, and the Wind is nothing else but a strong commotion of the *Air*, and a pressure towards the *Earth*; therefore the *Air* being forced to the *Sea*, endeavoureth to drive it from its place, and by reason of the *Sea* is fluid, and not able to resist the forcing *Air*; therefore it is moved from its place towards the place of the opposite *quarter*, and forceth another *water*, and this another, and so on.

Now seeing that there is always some *wind* in the *Air*, sometimes in this place, and sometimes in that, and sometimes diverse in divers places at one and the same time, thence it followeth, that there are certain contingent motions always in the *Sea*, which are more discernable in the parts nearer the Wind, and therefore the rather, by reason that the Sea doth most easily receive an impression, because it is fluid.

Proposition VII.

The general motion of the Sea is twofold; one continually from the East to the West, the other composed of two contrary Motions, which is termed the Flux and Reflux of the Sea, in which the Sea at certain hours floweth to the shoar, and in certain others floweth back again. We shall first treat of the first.

The motion of the Sea twofold.

That the *Sea* moveth from the *East* to the *West* continually, is chiefly proved from the motion of that *Sea*, which lieth in the *Torrid Zone* between the *Tropicks*: For because the *motion* is more strong, hence it is less hindred by other *motions*.

This *Motion* of the *Sea* is manifestly found by those that sail from *India* to *Madagascar* and *Africa*, also in the *Pacifick Ocean*, between *New Spain*, *China*, and the *Moluccoes*; also in the *Ocean*, between *Africa* and *Brasil*. So

so through the *Streights* of *Magellan* the *Sea* is carried from the *East* to the *West* with a vehement *motion*. So through the *Streights Manillan*, through *Channels* between the *Isles Maldives*, the motion of the *Sea* carrieth *Ships* from the *East*. The *Sea* glideth impetuously between *Cuba* and *Jucatan* into the *Gulph* of *Mexico*; and floweth out into *Cuba* and *Florida*. At the *Gulph* of *Paria* there is a violent *influx*, so that that Gulph is termed *Os Draconis*, the *Dragons Mouth*. Famous also is the *flux* at the *Land* of *Canada*. From the *Tartarian Ocean* the Sea moveth through the *Streights* of *Nova Zembla*, and *Waigats Streights*, which is proved both from the very motion it self, and also from the abundance of *Ice*, which the *Tartarian Ocean* casteth up at the *Streights* of *Zembla*. And at the *Northern shoar* of *America* in the *Pacifick Ocean*, the motion is towards the *Streight Anian*; also from *Japan* the *Sea* is moved towards *China*. So in the *Streight Manillan*, the motion is from *East* to *West*; so also in the *Streight Java*. And when the *Atlantick Ocean* is moved towards the *Coast* of *America*, the contrary is found in the *Pacifick Ocean*. For this is moved from the *shoars*, which is the most conspicuous at *Cabo de Correntes*, between *Panama* and *Lima*.

Proposition VIII.

The winds oftentimes change the general motion of the Sea, espetially those fixed winds, which we shall shew to be termed Motions, in the XXI. Chap.

The motion of the Sea oftimes changed by the winds.

For because that most of these do blow from the *South* and *North*, or from the *Collateral quarters* of these, thence it cometh to pass that the *Sea* by reason of its general motion tendeth towards the *West*, it moveth towards the Collateral quarters of the *West*, *viz.* *North-west*, or *South-west*: yea the general *wind*, when that it seldom bloweth from the *East*, but most commonly from the Collateral quarters of the *East*, changeth this general *motion* of the *Sea*. Much more do the *North winds* in the Northern *Sea*, where the general motion is little discernable in the parts of the *Ocean*.

Proposition IX.

The cause of this general motion of the Sea from the East to the West is uncertain.

The Opinion of *Aristotle* and *Copernicus* concerning the general motion of the Sea from *East* to *West*.

The *Aristotelians* suppose (although it were unknown unto *Aristotle* and his followers; and indeed to all the *European Philosophers*, before the *Navigation* of the *Portugals* through the *Ocean* of the *Torrid Zone*) that it is caused by the prime motion of the *Heaven*, which is not only common to all the *Stars*, but also to the *Air* in part, and to the *Ocean*, by which all are carried from the *East* to the *West*. But some that follow *Copernicus*, as *Kepler*, although they also acknowledge the *Moon* also the cause of this *motion*, yet they determine that the motion of the *Earth* doth not a little contribute unto this motion, *viz.* they suppose that the *water*, seeing that it is not continuous, but only contiguous unto the *Earth*, cannot follow the circumrotation of the *Earth*, and resist it towards the *West*, whilst the Earth withdraweth it self towards the *East*, and therefore that the *Sea* moveth not from one part of the *Earth* unto another, but that the *Earth* leaveth part of the *waters* one after another.

Othersome, who are not pleased neither with the solution of *Aristotle* nor *Copernicus*, having recourse unto the *Moon*, will have her to be *Empress* of the *waters*; and that she leadeth about with her, and draweth the *Ocean* from the *East* to the *West*. If it is demanded how? they reply, there is an occult *faculty influence*, *sympathy*, *vicinity* to the *Earth* and such like: indeed it is very probable that the *Moon* is the causer of this *motion*, by reason that in the *new* and *full Moons* this motion is more violent than in the *quarters*, where the motion for the most part is very little.

The moſt acute *Carteſius* hath explained a *Mathematical mode* by which the *Moon* cauſeth both this *motion* of the *water* and *Air*; for he ſuppoſeth according to his general *Hypotheſis*, that an infinite number of *Atoms* do move round about the *Earth*, by which the ſpace even unto the *Moon* is filled without any *Vacuum*, which ſpace he calleth the *vortex* of the *Earth*, viz. Let the *Earth* be F E G H. The *water* 2143, the *Air* 6587. the *vortex* of the *Earth* B A D C, the *Moon* B. Therefore ſaith he, if that there were no *Moon* in the *vortex* B A D C, the *particles* of its *vortex* would be turned round about the *Center* T: but becauſe that the *Moon* is in it, therefore the ſpace through which the *Celeſtial matter* floweth between B and T, is rendred more Anguſt, and thence it followeth that the *Celeſtial matter* floweth there more quick (between B, and T) and therefore more preſſeth the *ſuperficies* of the *Air* in 6, and alſo the *ſuperficies* of the water in 2. than if the *Moon* were not in the *Diameter* of the *vortex* B D: and ſeeing that both the *bodies* of the *Air* and *water* are *fluid* and eaſily plyant to this preſſion, it muſt not be ſo high above the part of the *Earth* F, as if the *Moon* were without the *Diameter* B D. and on the contrary muſt be more high towards E. But whilſt that the *Earth* is carried from E through F towards G, or from the *Weſt* to the *Eaſt*, the tumour of the *water* 412, and alſo of the *Air* 856, which now incumbs over the part of the *Earth* E, by *degrees* do move unto other parts more *Occidental*, ſo that after ſix *hours* they incumb over the part of the *Earth* H; and after twelve *hours* over the part of the *Earth* G. Whence it cometh to paſs that the *water* and the *Air* are carried from the *Oriental* parts of the *Earth*, unto the *Occidental* parts of the ſame by a continual flux; thus *Carteſius*. The ſtreſs of the Demonſtration is in this, becauſe the *Earth* E F G H with the *water* 1234 is moved round, and alſo the *Celeſtial* matter of the *vortex* between B A D C and 6587. The *Moon* being in B, maketh the ſpace B 6 with a certain preſſure paſſing through the *Air* and *water*, whilſt that it paſſeth through B, is expreſſed towards J H G, and whilſt that *j* paſſeth through B, is expreſſed towards H G F, and ſo forwards. Neither doth the part of the *Celeſtial* matter at the *Moon* having allapſed in B D mount upwards, becauſe it is repelled, and that all are full of bodies. And although it preſs the *Air* and *water* 62 F, not only towards the *Weſt*, E 15, but alſo towards the *Eaſt*, 73 G. yet becauſe the parts ſcituated from 62 F, towards 73 G, do more and more recede from theſe *Streights*, but the parts towards E 15, do more and more draw near, therefore by theſe chiefly is that force received.

But in this explication of this ingenious perſon, theſe things are required or wanted.

1. From that it ſhould follow that the *Sea* ſhould ceaſe to ſwell when that the *Moon* approacheth unto it, and that it ſhould ſwell in the parts, which are a *quadrant*, or ſix *hours* abſent from the *Moon*: *viz.* The tumour is in E 15, but in F 26 where the *Moon* is *vertical*, the *Altitude* is leaſt. But this is repugnant to experience, for in F 26 the *Sea* ſwelleth, but in E 15 the *tumour* is very little. How this abſurdity may be avoided, we ſhall ſhew in the following *Propoſition*.

2. It is not ſufficiently ſhewed (*Carteſius* hath omitted this) why, whilſt the *Celeſtial matter* in the narrow ſpace *B* 6, preſſeth the *Air* C, and the *water* 2; it is not equally moved towards G 37 from both the *water* and the *Air*, and the *Celeſtial matter* is carried with the *Earth* towards G 37, and therefore the *water* and the *Air* is rather carried towards the *Eaſt* than the *Weſt*. And it is a doubt whether it can be avoided by the only ſubduction of the parts from 6 *D B*, towards G 37.

3. The *Moon* drawing near to any *Sea*, a more vehement *wind* is found in that part towards the *Weſt*, from the *Eaſt*, than another time; but this hapneth not.

4. It is more manifeſt that the *Sun* maketh that *motion* of the *Air* from *Eaſt* to *Weſt*, or that a general *wind* doth it; for we find that in the *morning* before the *riſing* of the *Sun*, and alſo with the *riſing* of the *Sun*, in many places; for then it is diſtant a quadrant from the *vertex* of the place. Theſe things deſerve conſideration in the *Carteſian Explication*, to ſay nothing of the *Hypotheſis* it ſelf.

But

But whether this *motion* can be referred to a general *Eaſt-wind*, is doubted: For ſeeing that that *Wind* is always under the *Torrid Zone*, it would ſeem to cauſe that motion of the *Sea* to be perpetual. For it is evident, that with the augmentation of the *Wind*, the *motion* of the *Sea* is augmented; but that it is a ſufficient ſign, that the motion it ſelf doth depend on the *Wind*. For the connexion hindreth, which this *motion* hath with the *Moon*, *viz.* that the *Moon* approaching to the *Sea*, it cauſeth that 2 to ſwell, becauſe in the *Full* and *New Moon* that *motion* of the *Sea* is more vehement from the *Eaſt* to the *Weſt*, which the Demonſtration of *Carteſius* excellently explaineth, *viz.* becauſe the *Moon* in the *New* and *Full* is more near unto the *Earth*, and ſo the *port* B 6 is rendred more anguſt for the tranſition of the *Celeſtial matter*, and therefore the preſſure is the greater. And although when the *Moon* is at *Full*, that *intumeſcency* may be referred unto the greater light of the *Moon*, yet the *Moon* being in the *New*, this cauſe ceaſeth; and therefore it is evident, that the *Moon* is not the cauſe of this *motion*, but rather that preſſure of *Carteſius*, as we ſhall obſerve in the following *Propoſitions*.

Propoſition X.

The ſecond general Motion of the Sea is the flux and reflux of the Sea, in which the Sea in the ſpace of twelve hours and about half an hour, floweth unto moſt Coaſts, and floweth back again: It floweth when that the Moon approacheth unto the ſupream or loweſt Meridian; and refloweth, when the Moon recedeth from the Meridian towards the Weſt, and towards the Eaſt.

The flux and reflux of the Sea is the ſecond general motion.

Where we muſt firſt diſcover, whether the *Ocean* by this *motion* be moved unto one certain *quarter*, *viz.* from the *Eaſt* to the *Weſt*, or from *Weſt* to *Eaſt*?

For the ſhoars of *Gulphs* and *Channels* of *Rivers*, in which this *flux* and *reflux* is more manifeſtly found, than in the vaſt *Ocean*, are extended nigh unto, or according unto divers *quarters*, ſome towards the Eaſt from the Weſt, as the *Mediterranean*; ſome from the South towards the North, as the *Arabian Gulph*. And in every one of theſe *Gulphs* and *Shoars*, the *water* floweth towards the *quarter* of extenſion. Therefore in divers *Gulphs* and *Shoars*, this motion of the *Sea* or *Ocean* tendeth into divers *quarters*: therefore our firſt Inquiry muſt be, Whether this *motion* of the *Ocean* obſerveth any certain *quarter*; and whether it be moved elſewhere unto other *quarters*; or whether it obſerve two *quarters*, *viz.* the *Occidental quarter* in the *flux*, and the *Oriental* in the *reflux*? Or whether one and the ſame *quarter*, both in the *ebbing* and *flowing*? *viz.* the *Occidental*. Unto this may be anſwered, That the laſt is true, *viz.* that the whole *Ocean* in the *flux* is moved from the *Eaſt* to the *Weſt*; but in the *reflux* it is moved indeed by a general *motion* again from the *Eaſt* to the *Weſt*: but yet in the *flux* more quantity of *water* floweth unto a certain part; but in the *reflux*, (or to ſpeak more properly, the *deflux*) it is not moved into a contrary *quarter*, but unto the ſame *Occidental quarter*; but yet a leſſer quantity of *water* doth flow in.

So then we muſt determine, that the *flux* and *reflux* of the *Sea* is not a diſtinct *motion* from the general motion of the ſame, which we have explained in the former *Propoſition*, by which the *Ocean* continually moveth from *Eaſt* to *Weſt*, but that it is a certain mode or affection of this general motion; and therefore if that this *motion* be conſidered in the whole, or in the middle of the free *Ocean*, it is not ſo properly termed a *flux* or *reflux* of the *Sea*, but rather a *flux* or *deflux*, yea thoſe terms are not apt enough; but it is better to call it an *Intumeſceney* and *Detumeſcency*, ſo that by theſe peculiar appellations, the quality of the *flux* or motion may be diſtinguiſhed from the *motion* or *flux* it ſelf. For the *Sea* always floweth from the *Eaſt* to the *Weſt*, and only appeareth to re-flow, by reaſon that when in one place there is a greater quantity of *water*, and that it floweth with vehemency to a certain place, afterwards in another time this *impetus* ceaſeth.

But it is therefore termed a *reflux*, becauſe that the Sea ſeemeth in *Bays* and *Shores* to draw near and depart. According to the extenſion of *bays* and *ſhores*, which hapneth not by reaſon of the quality of the Motion it ſelf; but by reaſon of the ſcituation of *Coaſts* and *Channels*, *viz.* that the *Water* doth return back to a contrary quarter, but that the *Sea* falleth down; this proceedeth not from the ſcituation of the *Coaſts*, but from the condition of the place it ſelf.

Neither ought or can the *motion* of the *Sea* be regarded from the appulſe to the *ſhore*; for whatſoever the motion of the *Sea* be, or unto what *quarter* ſoever it be made, the *flux* is always towards the *ſhore*, which is by reaſon of the fluid nature of the *water*.

Now ſeeing that both the *flux* or *reflux*, or in the *intumeſcency* and *detumeſcency*, the *Sea* is moved towards the ſame quarter, *viz.* from the *Eaſt* to the *Weſt*, and doth not re-flow again, is collected from hence. Firſt, that in the *Ocean* removed from the *ſhores*, under the *Torrid Zone*, no other *motion* is found than that by which it is carried from the Eaſt to the Weſt. Secondly, In the *Streights* which directly extend from Eaſt to Weſt, and in which the parts of the *Ocean* are joyned; as the *Streights* of *Magellan*, *Manillan*, *Java*, and others amongſt the *Indian Iſles*: In theſe *Streights*, I ſay, the *Sea* indeed ſwelleth and falleth in *twelve hours*; but yet the *Sea* in the *detumeſcency* doth flow back from out the *Streights* from the *Weſt* to the *Eaſt*; therefore another orifice of the *Streight* into the *Weſt*, which is a manifeſt ſign that this *intumeſcency* and *detumeſcency* is not a peculiar motion, but a modification of the general *motion*, neither doth the Sea flow back into the *Eaſt*. Therefore *Scaliger* and all others are deceived, which here introduce a double motion replicated into it ſelf.

But yet this muſt be underſtood, that when we ſay, that this *motion* is made from the *Eaſt* to the *Weſt*, the *Cardinal quarters* are not only underſtood, but alſo thoſe *quarters* that are *collateral*, *viz.* the *Sea* is moved alſo by this *flux*, from the *Collateral quarters* of the *Eaſt* unto the *Collateral quarters* of the *Weſt*, yea unto the *North* and *South*; but not by ſo forcible and valid motion.

Propoſition XI.

To declare the cauſe of the intumeſcency and detumeſcency of the Sea, or the flux and reflux, vulgarly ſo termed.

The cauſe of the flux and reflux of the Sea.

There is almoſt no *phænomenon* of Nature, that hath more exerciſed the wits of Learned men and *Philoſophers*, and that hath deluded more endeavours. Some have made the *Sea* and *Earth* to be an *Animal*, which by its inſpiration and expiration, hath cauſed the *flux* and *reflux*. Others make the cauſe to be a great *Vortex* near to *Norway*, which for ſix hours ſucketh up the *water*, and for ſo many ſpueth them out again. *Scaliger* and Others ſuppoſed the *Coaſts*, eſpecially thoſe of *America*, to be the cauſe thereof, by reaſon that they repel the appulſe of the Sea, which proceedeth from the general *motion*: But many, when that they diſcover the connexion of this *intumeſcency* and *detumeſcency* with the *motion* of the *Moon*, determined, that it only depended on that. But how this ſhould be, is a more than ordinary task to diſcover; ſeeing that they reply nothing elſe, but that the *Moon* doth attract upwards humors by an occult quality and ſympathy. But theſe are only *words*, which ſignifie nothing elſe, but that the effect is cauſed by the *Moon* after ſome mode that we are ignorant of: but this is the mode demanded.

See Scheme.

Carteſius deduceth it from his general *Hypotheſis* after this manner: Let the *Diagram* of the *Ninth Propoſition* be taken, in which let A B C D be that *Vortex* which hath the *Earth* for its Center, which with it and with the *Moon* is carried in a greater *Vortex* about the *Sun*. M the *Center* of the *Vortex*, E F G H the *Earth*, 1234 the *ſuperficies* of the *Sea*; from which, for the greater perſpicuity, we do ſuppoſe the *Earth* to be encompaſſed on every ſide; and 5678 the *ſuperficies* of the *Air* encompaſſing of the *Sea*. Now if that there

there were no *Moon* in this *Vortex*, the point T, which is the *Center* of the *Earth*, ought to be in the *point* M, which is the *Center* of the *Vortex*; but the *Moon* being towards B, this *Center* of the *Earth* T ought to be between M and D, by reaſon that the *Celeſtial matter* of this *Vortex*, is ſomewhat more quicker moved than the *Moon* or the *Earth*, which it carrieth with it. Except that the *point* T were a little more diſtant from B than from D, the preſence of the *Moon* would hinder, that that ſhould not ſo freely flow between B and T: ſo ſeeing that the place of the *Earth* in this *Vortex* is not determinated, except from the equality of the ſtrength of the *Celeſtial matter* flowing about it; therefore it is evident that it ought ſomewhat to approach towards D. And after the ſame mode, when the *Moon* ſhall be in C, the *Center* of the *Earth* ought to be between M and A, and ſo always the *Earth* darteth a little from the *Moon*. Moreover, becauſe by this means, from this that the *Moon* is towards B, not only the ſpace through which the *Celeſtial matter* floweth between B and T, but alſo that ſpace through which it floweth between T and D is rendred more anguſt; thence it followeth that this *Celeſtial matter* there floweth more ſwiftly, and therefore doth more preſs both the *ſuperficies* of the *Air* in 6 and 8, and alſo the *ſuperficies* of the *Water* in 2 and 4, than if that the *Moon* were not in the *Diameter* of the *Vortex* B D: Now ſeeing that both the *bodies* of the *Air* and *Water* are fluid, and eaſily obnoxious to this preſſion, they ought not to be ſo high above the parts of the *Earth* F and H, as if the *Moon* were without this *Diameter* B D; and ſo alſo on the contrary they ought to be higher towards G and E, ſo that the *ſuperficies* of the *Water* 1 and 3, and of the *Air* 5 and 7, do there protuberate. Now becauſe that part of the *Earth* which is now in F, on the oppoſite quarter of the point B, where the Sea is very little high, after *ſix hours* it will be in G, on the oppoſite Region of the *point* C, where it is moſt high, and after other *ſix hours* in H, on the Region of the *point* D, and ſo conſequently, or rather becauſe that the *Moon* in the mean ſpace doth ſomewhat proceed forwards from B towards C, as running in a *Months* ſpace through the *Circle* A B C D, part of the *Earth* that is now in F, on the oppoſite Region of the body of the *Moon* after *ſix hours* and *twelve minutes*, either more or leſs, ſhall be beyond the *point* G in that *Diameter* of the *Vortex* A B C D, which interſecteth that *Diameter* of the ſame *Vortex* in which the *Moon* ſhall then be at *right Angles*, and then ſhall the *water* be there moſt high: and after *ſix hours* with *twelve minutes* it ſhall be beyond the *point* H. in the place where the *water* ſhall be very low, &c. whence it is clearly diſcovered, that the *water* of the *Sea* in every *twelve hours* and *twenty four minutes*, ſhall *flow* and *re-flow* in one and the ſame place.

This is the Demonſtration of *Carteſius*, in which that is eſpecially ingenious, that it aptly ſheweth not only how the *flux* or *intumeſcency* is made at the place, when that the *Moon* is moved at its *Vertex* or *Meridian*; but alſo when that the *Moon* beneath the *Horizon* is moved to the *Meridian* of Midnight.

We have ſaid in the end of the *Ninth Propoſition*, what any one may ſeem to require in this Demonſtration, eſpecially that which ſeemeth to be admired at, that *Carteſius* ſhould not ſo much as think that according unto this Demonſtrarion, That the leaſt *Altitude* of *water* and all kind of *Detumeſcency*, ought to be when that the *Moon* cometh to the *Meridian*; as the *Moon* being in B, the leaſt *Altitude* of *water* is in 2 and 4, and on the contrary the *water* increaſeth with the departure of the *Moon* or *Earth*, ſo that when F ſhall be in G. that is, *ſix hours* from the *Moon*, it ſhall have the greateſt *Altitude*; which in truth is contrary to all Experience; for with the acceſs of the *Moon* to the *Meridian*, the *water* increaſeth, and with the departure of the ſame, decreaſeth. But the words of *Carteſius*, as well as the *Diagramma*, aſſert the contrary. But I ſuppoſe this abſurdity may be removed from the Demonſtration, and that by this mode (ſo that it may be approved of by *Carteſius*;) for let us place the *Vortex* of the *Earth* A B C D to be without the *Moon*, and the *water* 1 2 3 4 to be equally diſtant from the *Center* T without any *Tumor*,

but

but yet to be moved round with the *Earth* and *Celeſtial matter*, between A B C D and 5 6 7 8. Now let the body of the *Moon* draw near unto this *Vortex*; for Example, into B, and therefore the ſpace T B becometh more narrow; and the *Celeſtial matter*, whilſt that it endeavoureth to paſs through it, preſſeth the *Water* in 2 towards E.

Therefore whilſt that the *Water* is expelled from 2 towards E, it is demanded where the greateſt tumor of *Water* will be, whether in the place E, which is a quarter diſtant from the place F, (unto which the *Moon* is *vertical*;) or whether in a place nigh unto F towards E? If that you aſſert the firſt, *viz.* that the tumor ought to be in E, Experience doth then gainſay; but that the ſecond is truly ſo, Experience confirmeth, and Reaſon doth induce to believe, *viz.* whilſt that the *Moon* conſiſteth above the place E, the *Water* is expelled from 2 towards I: but the greateſt tumor will be in the place near to 2, not in I. For this is manifeſt by Experience, becauſe the *Occidental places* do later diſcover the *intumeſcency*; but reaſon and the motion of the *Water* do altogether require the ſame Laws: for if the *Water* be poured forth into 2, that it may flow towards E, the greateſt quantity will be in the place E, a little leſs in the place near to that, and yet far leſs in the place nigh to that, and leaſt of all in E. So alſo, when that *water* is driven from 2 towards E, its greateſt quantity and accumulation ſhall be in the place near to 2; and ſo much the leſſer, by how much the place is more remote from 2; but becauſe the *Earth* is moved round that E may come unto F, then at length ſhall the greateſt tumor be in E, and the *water* ſhall be forced towards H.

Therefore the *Diagram* of *Carteſius*, with the Demonſtration it ſelf, ought to be changed, that the tumor may be in the place near unto the very 2, that is, to that unto which the *Moon* is *vertical*. What elſe may be here ſaid, we ſhall handle in our treatiſe of the conſideration of the *Carteſian Philoſophy*.

Propoſition XII.

In Full and New Moons the general motion of the Sea from the Eaſt to the Weſt is more violent; alſo the intumeſcency of the Sea is found great in moſt parts: but in the quarters the motion is found the leaſt of all, and ſo alſo in the intumeſcency.

In Full and New Moons, the motion of the Sea from Eaſt to Weſt, moſt violent.

Experience ſufficiently proveth this *Propoſition*: for *Mariners* teſtifie, that the *Sea* doth foam and ſwell in *New* and *Full Moons*, and in the *quarters* is calm. Now it is eaſily demonſtrated according to the *Hypotheſis* of the preceding *Propoſitions*: for the *Moon*, when it is either *Full* or *New*, is more near the *Earth* than at any other time; and in the *quarters* more remote, as *Aſtronomers* do demonſtrate. Now when the *Moon* is more near the *Earth*, that is, when that the ſpace B T is leſs; the *Celeſtial matter* being hindred, more vehemently preſſeth the *water* from 2 to 1 (becauſe it is more near) but on the contrary in the *quarters*.

Yet the *motion* is obſerved to be more violent in the *Full Moons* than in the *New*, at leaſt in ſome places, which except you will aſcribe to the light of the *Moon*, I ſee no other cauſe, neither can we otherwiſe ſhew, why in the *Full Moon* both *Trees* and *Animals* have greater humors, than in the *New*, ſeeing that the *Sea* is equally augmented in the *New Moon*. Yet that is marvellous, that one *Twiſtius* a *Dutch-man* relateth in his deſcription of *India* concerning the Kingdom of *Gazaratt*, where for many years he dwelt; that *Cockles*, *Crabs*, and other *ſhelly Fiſhes*, are leſs fleſhy and juicy in the *Full Moon* than in the *New*, which is contrary to the nature of all *Regions*. Neither is it leſs admirable, that on the *ſhoars*, near to the mouth of the River *Indus* in the ſame Kingdom, that the *Sea* is augmented and ſwelleth in the *New Moons*; and not far from thence, in the *Sea* of *Calicut*, the increaſe is in the *Full Moon*.

Propoſition

Propoſition XIII.

In the time of the Vernal and Autumnal Equinox, or in the Spring and Autumn, the intumeſcency of the Sea is greater than in the other ſeaſons of the year, but leaſt in the Solſtices.

In *Spring* and *Autumn* the intumeſcency of the Sea is greateſt.

Carteſius indeed pretendeth to ſhew a *demonſtration* of this propriety from his *Hypotheſis*, but I cannot apprehend it from his words, neither do I ſee how it can follow from his *Hypotheſis*. It is probable that the *Sun* and general *winds* do very much contribute to this intumeſcency of the *water*, and ſeeing that the *Sun* in the *Æquinoctials* doth incumb on the middle of the *Sea* of the *Torrid Zone*, therefore either he, or the *winds* cauſe that the *Sea* then ſwelleth more than at another time. But as concerning the *Solſtices* we muſt ſay, in a contrary mode, or that the ſame is the cauſe of the greater intumeſcency of the *Sea*, in the time of the *Æquinoctials* either of the *Spring* or *Autumn*, which is the cauſe of more frequent *rains*, *winds* and *inundadions* in thoſe *ſeaſons*.

Propoſition XIV.

In ſome parts of the Ocean, Gulphs, and Shoars, great is the encreaſe and decreaſe of the water in the influx, and deflux: in other ſome it is very ſmall, in ſome not diſcernable, and ſo there is no flux and reflux, or intumeſcency and detumeſcency.

The increaſe and decreaſe of the water in ſeveral parts of the Ocean.

Thoſe places receive great *Augmentation* and *decreaſe*, 1. That are under the *Torrid Zone*, between the *Tropicks*, for then the *Moon* preſſing for the moſt part is there carried round. 2. In places that are directly extended from *Eaſt* to *Weſt*, or nigh the *Collateral quarters*. 3. In thoſe *Gulphs* that are long and leſs broad, the Augmentation is the more ſenſible. 4. In thoſe places in which few *Iſlands* or *procurrents* adjoyn to the *Earth*.

The greateſt flux and deflux in the Streight of *Cambaja*.

The greateſt *flux* and *deflux* hitherto obſerved, is that which is in the *Streight* of *Cambaja* in one of the inlets of the *River Indus*, and it hath ſtruck many with admiration, for the water recedeth to an high diſtance, and that very ſpeedily. Whence not without reaſon the *River Indus*, or the *Gulph* of *Cambaja* is thought to be that unto which when that *Alexander the Great* came, and endeavoured to paſs his Army over, as it is there related; the *water* preſently went back and left his Ships a ground; hence he went no farther, but judged that the *Gods* had here fixed the bounds of his Expedition, with a prohibition of proceeding any farther. The cauſe is the ſmall or narrow, and deep depreſſion of the *Channel*; but yet 'tis probable there was ſome other cauſe.

Fluv and reflux at *Damman*.

At the *City Damman* in *India* not far from *Surat*, the *Altitude* of the *water* by *flux* and *reflux* is varied at two and a half *Orygas*, and the *Sea* departeth from the *ſhoar* the ſpace of half a *mile*.

In the *Gulph* of *Cambaja* the *flux* augmenteth the *Altitude* five *Orgyas*, others ſay ſeven, which unuſual augmentation hath been the cauſe of the loſs of many Ships by unexperienced *Mariners*; for the *water* falling, they have been ſplit on the Rocks.

No conſtant time of the flux and reflux in the Streights of *Magellan*.

In the *Gulphs* and *ſhoars* of the *Streights* of *Magellan*, no conſtant time of the *flux* and *reflux* is obſerved, for ſometimes the *water* floweth and refloweth in three *hours*, otherſome in twelve *hours*; which inconſtancy is to be aſcribed to the violent irruption of the *Ocean* into that *Streight*, and from the various agitations of the *wind*.

The flux and reflux in the *Red-ſea*.

About *Malacca*, alſo at the *Streight* of *Sunda*, a notable *flux* and *deflux* is obſerved.

In the *Arabian Gulph*, or *Red Sea*, ſome of the Ancients have written that there is ſo great a *reflux* (as *Scaliger* writeth) that *Moſes* and the *Iſraelites* paſſed over without any Miracle. But it is falſe, becauſe the *reflux* is not there ſo great as to leave the Channel dry.

On

On the *Coasts* of *China* the *flux* and *reflux* is very sensible, as also at the *Isles* of *Japan*.

The Sea at the flux much exalted at *Panama*.

At *Panama* on the Coast of *America* lying at the *Pacifick Ocean* the *Sea* is very much exalted, and by and by depressed again; in the *full Moons* the *flux* is so much augmented, that *water* entreth into the Houses of the *City*. Yea in almost all the shoars of the *South Sea*, the *Altitude* of the *water* is wonderfully augmented and diminished, so that in the *reflux*, the decrease is sensible for *two miles*. In the *Gulph* of *Bengala* at the shoar of *Siam* the *flux* augmenteth the *Altitude ten foot*.

The flux not perceivable in the *Mediterranean* Sea.

But in the *Mediterranean Sea*, which floweth in through the *Streights* of *Gibralter*, from the *West* to the *East* the *flux* is not perceivable, because the scituation is contrary to the *quarter* into which the *Sea* is moved, and therefore the *water* of it is little augmented by the *flux*, so that it is not discernable, unless in the *Gulph* of *Venice*, which by reason of its long extension and small *Latitude*, sheweth the *flux* and *reflux*, when in the other part of the *Mediterranean Sea* by reason of its notable *Latitude*, that little augmentation and decrease is not discovered. Whence this *flux* and *reflux* was unknown to the *Grecians*, as also to the *Romans* in the time of *Scipio Africanus*. And the *Grecians* as well as the *Romans*, accounted it as miraculous what sometimes they discovered in other places, as is manifest from the Expedition of *Alexander* the *Great*, and of *Scipio* in the expugnation of *Carthage*; but in the time of *Cicero* it was known to the *Romans*. Yet some observed it a little at *Massilia*; also at certain *Coasts* of *Barbary*, it is noted enough.

The flux and reflux in the *Baltick* Sea not yet found out.

In the *Baltick Ocean*, as also in the whole *Northern Sea* beyond *England*, towards *Norway*, and *Greenland*, the *flux* and *reflux* of the *Sea* is not yet found out, as neither in the North Coast of the *Pacifick Ocean*. But the cause is not yet sufficiently known, unless you will say that those *Seas* are remote from the course of the *Moon*, and also that they are extended from the *West* to the *East* and *North*; moreover that many *Isles*, and *procurrencies* of land do hinder. These three must be conjoined to impede the *flux* of the *Sea* in these places.

Proposition XV.

The flux and reflux of the Sea is a violent motion, viz. *an impulse, but the reflux is a natural motion of the water.*

For the *flux* is caused by the pression of the *Moon*, or *matter* between the *Moon* and the *Earth*, or also because that the *Sea* doth not remain in that *scituation* which is received in the *flux*, this is a sign that it was a violent *motion*. But in the *reflux* the *Sea* is moved from a more high place to a more depressed place, which is the natural *motion* of *water*.

Lemma.

The place of the Moon being given in the Ecliptick, and the Latitude and hour of the day, from an Ephemerides, or by Supputation or Astronomical observation, to find on the Terrestrial Globe the place, unto which the Moon at the hour given is vertical, also to exhibit all those places of the Earth unto which the Moon will be vertical that day, viz. *one after another.*

See Proposition 13. in Chap. 19.

The use of this Problem is great, yea very necessary in the Doctrine concerning the *flux* and *reflux* of the *Sea*. The mode of performing of the same you shall find in the *Nineteenth Chapter*, and the *Thirteenth Proposition*. For there it is more conveniently explained: yet the *Explication* of that *Proposition* may be anticipated, and demonstrated to the studious in this *Chapter*.

Proposition

Proposition XVI.

In those places of the Sea, to which the Moon is vertical, the flux and deflux is greatest, except that there be other impediments, which we have reckoned up in the XIV Proposition. And by how much the parts of the Sea are more remote from the place, by so much the flux and deflux is lesser, other things being equal.

For because in that place the pressure is greater, and the tumour of the water greater, which is more vicine to the *Moon* pressing, and the *Celestial matter*; thence followeth that, that the *Proposition* intimateth the objections concerning some other places, in the comparison of which the contrary is found, are to be excused by the admixtion of other causes.

Proposition XVII.

The quantity of the flux and reflux is unconstant in every place, and divers on several daies, and by so much the greater, or lesser, by how much the Moon is more remote, or near unto that place.

The Moon every day changeth her place in the *Ecliptick*.

For the *Moon* every day changeth her place in the *Ecliptick*, and so on other *daies* is vertical to other places, and by consequence is more remote from any place, or more near. Which being observed, we conclude from the preceeding *Proposition*, that there is a divers quantity of the *flux* and *reflux* in one and the same place, on divers *daies*, whether that the diversity be sensible or insensible.

Proposition XVIII.

The greatest intumescency of water in any place, and term of the flux, ought to be when that the Moon doth occupy the Meridian of the place. But in many places it is found to be in another scituation of the Moon.

See Proposition 16.

For then is the *Moon* most nigh to any place of the *Earth*, when that it is in the *Meridian* of that place, because that the *Hypotenusa* of a *right angled Triangle*, is lower than the *Cathetus*. Whence it is inferred by the XVI *Proposition*, that when the *Moon* is in the *Meridian*, there ought to be the greatest *intumescency*, and *Altitude* of *water*, and immediately a decrease to succeed. But when the *Moon* is in the lowest of the *Meridian*, then the narrowest of the *vortex* of the *Earth* opposite to it in the upper *Meridian*; and therefore doth effect the same, as if that the body of the *Moon* were present.

But here ariseth a great difficulty. For there are many *places* and *Coasts* of the *Earth*, in which we find that the term of the *flux* is not when that the *Moon* cometh to the *Meridian*, (as the *Philosophers* held before this age) but sooner or later, *viz.* when that the *Moon* cometh to a certain *quarter*, not *Cardinal*, and this *quarter* is not constantly observed, but in *new* and *full Moons*; for the most part the greatest *intumescency* is, and the begining of a *detumescency*, before the *Moon* cometh to this *quarter* or *vertical Circle*. So at *London* the *water* is at the highest when the *Moon* cometh to the *quarter* which is between the *South* and *West*, or *North* and *East*; that is to the *South West*, or *North East quarter*. At the Coast of *China*, in the Port of the City *Maccau*, a certain *Portugal Mariner* observed the time of the greatest intumescency by this *mode*. The *Elevation* of the *Pole* is 22 *degrees*, 20 *minutes*; in the *Year* 1584 on the 19 of *September*, the *Moon* was at full, then the *intumescency* or *Altitude* of the highest water was observed in the morning at $\frac{1}{2}$ or $\frac{1}{4}$ of an *hour* past 8. therefore then the *Moon* was removed from the *Meridian* $3\frac{1}{4}$ *hours*. Whence the *quarter* or *vertical Circle* in which the *Moon* at that moment of time was, is found according to the Problem of the 30 *Chapter*.

The greatest flux at the Coast of *China*, observed by a *Portugal*.

Anno 1585, on the 16 of *February*, in the full Moon, the greatest hight of *water* was observed at half an *hour* past a *eleven* a *Clock* at *Noon*.

Certain observations taken by a *Dutch Mariner* of the flux of the Sea in many places.

A certain *Dutch Mariner* on the *daies* of the *new* and *full Moon*, noted the *hours* of divers places, for the *term*, or *intumescency* of the *flux*, from which I have extracted these.

At the twelfth *hour* (on the *daies* of the *new* and *full Moon*) on the Coast of *Flanders*, at *Enchusen* in *Holland*, at *Horn*, at *Embden* in *East Freezland*, at the mouth of the *Elve*, at *Eider*, at the Isles of *Jutland*, and at *Dover*, at *England*. At 45 *minutes* past 12 at *Flushing* in *Zealand*, half an hour after one a Clock, at the *Occidental Coast* of the Isle of *Wight*, at *Calis*, at the *mouth* of the *River* of *Thames*, at the *shoar* of *Zeland*, in the mouths of *Scald*, in *Mosa*, and at *Gored*. A quarter after two, before the mouth of *Scald*, and the mouth of *Mosa*. At three a Clock at *Amsterdam*, *Roterdam*, *Dort*, in *Holland*, at *Newcastle* in *England*, at *Arment* in *Flanders*, in the mouth of the *River* of *Burdeaux* in the *South* Coast of *Britain*, *Gallocia*, *Gascoyn*, *Biscay*, *Portugal*, and *Spain*, and on the *Western* Coast of *Ireland*, even to *Hitland*. A quarter after four in the evening at *Roan* in *France*, between *Mosa* and *Rochel*, in the River of *Burdeaux*, in the *Bays* of the *Spanish*, *Portugal*, and *Gallecian Coast*; in the *South* Coast of *Britany* in *France*, *Gascoyn*, and on the *Western* Coast of *Ireland*. Half an hour past four from the *Texel*, at the *South* Coast of *Ireland*. A quarter past five in all the *Ports* of the Southern Coast of *Ireland*, at *Plymouth* in *England*, and other *Southern* places of it, even to the Coast of *Wales*. At six in the *evening* and *morning* before *Hamburgh* in the *Elbe*, before *Bremen*, the *Texel*, *Antwerpe*, in the Channel between *England* and *Brabant*, without *Sorlis*. A *quarter* before seven in the *evening*, between *Fawick* and *Vaelmuya*, in the Channel even to *Bristol*; before St. *Nicholas* and *Podessembe*, even to *Waymouth*, and *Hartepole*. At half an hour past seven in the Haven at the *Texel*, at *Kilduyna*, in the middle of the *Channel*, nigh *Plymouth*, and in the *Sea*, even to the *Promontory* of the *Lizard*. A *quarter* past eight in the evening, nigh the Isle of *Wight*, in the *Channel*, even to *Bevesier*, without the *Fly* on the Coast of *Holland*. At nine before the mouth of the River *Ems* in *Freezland*, before the *Fly*, before the Coast of *Freezland*, at the *Eastern* Coast of the Isle of *Wight*. At half an hour past *ten* before the mouth of the River *Thames*, on the Coasts of *Normandy* and *Picardy*. And at a *quarter* past *eleven* a Clock in the River *Thames*, and other places of *England*.

A difficult task to explicate the cause of this difference.

Now it is a most difficult task to explicate the cause of this so notable a difference, and that in all places, although it be incumbent on the *Philosopher*, or *Geographer*. Yet it is probable that the various windings of the *shoars*, the scituation of the *Coasts* in respect of the *Sea*, the obstacles of *Illands*, the mutual meetings of the *water*, the distance of the places from the *Lunary way*, various waies, especially those that are constant and general, the declining of the *shoars*, and other things, do very much conduce to this propriety of the *flux*. For example: at the *Port* of *London*, in the *Coast* of *England*, the *water* encreaseth until the Moon cometh unto the quarter of the *South-West*, *viz.* when it declineth from the *Ecliptick* towards the South; for then *water* begineth to flow back again, but not when the Moon cometh to the *Meridian*. Therefore we say, that whilst the Moon moveth to the *Meridian* of *London*, towards *Brazile*, (or from *Brazile* towards *London*) the *Sea* doth not recede from *London*, but is yet augmented, by reason that the Coasts of *America*, unto which the *Ocean* is moved by the Moon, do repel that *water* towards *England*, and this hapneth therefore, because it affordeth not a passage for the *water*. But why, when the Moon is declining from the *Ecliptick* towards the *North*, is the greatest *Altitude* of the *water*, and the begining of the decrease observed, before the Moon cometh to the *Meridian*, *viz.* in the *North-East*?

I answer, that this cometh to pass, because that the Moon is then far more near to *England*, than when it declineth from the *Ecliptick* towards the *South*: and therefore then it more swiftly filleth; but the cause, why then the *flux* is no longer protracted, even until the Moon cometh to the *Meridian*, may be, by reason that the Moon forceth the *Sea* more near the *Sea* of *Mexico*, and *Hudsons Streights*, where there is found a great *intumescency* and *detumescency*.

On the *Coast* of *China*, we therefore say, that the intumescency doth anticipate the appulse of the *Moon* at the *Meridian*; by reason that a continual *East wind* driveth that *Sea* towards the *West*.

But these *allegations* I leave to be farther examined, by the searchers of nature. But for the finding out of the true cause, it is altogether necessary that we acquire accurate observations how the *flux* and *reflux* of the *Sea* is made in divers places, *viz.* in what *vertical* the *Moon* is in that *flux*; how the *quarter* is varied in a divers place of the *Moon*, as in the full and new; especially in those places where the *Moon* becometh *vertical*, also in those which directly respect the *East*, *West*, and *North*. Also that must be diligently observed, how the *flux* is here made in those *hours* of the *day*, whilst that the *Moon* being in the *North part* of her *Circle*, hath not the *Sea* placed *vertically* under her, but *Lands* in a long tract, *viz.* from *Cambaja* and *China*, even to the *Occidental Coasts* of *Africa*. For because then that it doth not directly press the *water*, it being depended over the *Mediterranean places*; I thence suppose that some variety must happen to this *motion*. Also what then it doth, whilst the *Moon* ruling in the *South Hemisphere*, passeth over the *Mediterranean parts* of *Brazile*, or *Southern America*. Without these observations we shall hardly arrive at the true cause, neither shall we neglect this argument.

Proposition XIX.

The Sea floweth to most Coasts in six hours and twelve minutes, and refloweth also in so many hours.

The Sea in few places floweth in more hours and refloweth in less.

In very few places it floweth in more *hours*, and refloweth in less: and on the contrary, in very few places it floweth in fewer *hours*, and refloweth in more: yet so that the time of the *flux* and *deflux* (*viz.* between the two greatest *intumescencies*) together make twelve *hours*, with 24 $\frac{8}{9}$ *minutes*, and two such times make 24 *hours* with about 50 *minutes*, (48 $\frac{4}{4}$) and therefore on every *day* the greatest *intumescency* falleth out later almost by an *hour*, because that the *Moon* almost an intire *hour*, returneth more slowly to the same *Meridian* every day.

We have sufficiently explained the first part of the *Proposition* in the *Demonstration* of the Eleventh *Proposition*, although in this demonstration we have taken the *Altitude* of the *Sea*, the *Moon* possessing the *Meridian*: but in this *Proposition*, by reason that in the proceeding we have shewed that in many places that *Altitude* doth happen, the *Moon* being constituted without the *Meridian*; we do not reckon in them the *hours* from the time in which the *Moon* possesseth the *Meridian*, but for that time in which the *Moon* occupieth that *vertical place*, in the which when that the *Moon* is, it is manifest that the greatest *intumescency* is. Yet in these places the period of the *increment* or *decrement* doth not exactly observe these twelve *hours* with twenty four *minutes*, or twenty four *hours* with fifty *minutes*; because that the *Moon* by reason of its various and mutable distance from the *vertex*, either in more or fewer hours returneth to the same *vertical*, which difference notwithstanding is not great.

Although therefore in all places the *flux* and *reflux* be compleated almost in twelve *hours* and twenty four *minutes*, (when that there are no *tempests*) also in most this time is equally divided between the *flux* and *reflux*, so that in six *hours* it floweth, and in so many *refloweth*; yet in some places the time of the *flux* is unequal to the time of the *deflux*, *viz.* more or less. The *Ocean* entereth *Garumna* a *River* in *France* in seven *hours*, and refloweth in five. So at the *Port* of *Maccoa*, on the Coast of *China*, the *flux* is in nine hours, and refloweth in three, yea in less, if that the *Eastern winds* blow.

The flux and reflux of the Ocean at the River *Garumna* in *France*.

On the contrary at the *Coast* of *Zenega* (a *River* of *Æthiopia*) the Sea *floweth* in four *hours*, and *refloweth* in eight.

The cauſes of theſe differences are difficult. Some refer them to the ſwift and valid *efflux* of the *Rivers*, or alſo to a ſimple *efflux*; for therefore the Shoar of *Garumna* diſcovereth the *flux* in ſeven *hours*, becauſe that its ſtrong *motion* retardeth the *flux*, but yet aſſiſteth the *deflux*; therefore the *Sea* refloweth in five *hours*. Others have added thoſe *hours* to the *flux*, by reaſon that the *Sea* reflowing from the more Northern place, hindreth leaſt the *Sea* ſhould hinder the egreſs from *Garumna*, but rather be more forced on it. But I ſuppoſe therefore to be, by reaſon that *Garumna* poureth forth it ſelf by a ſtrong Motion from its inlet or mouth into the *Ocean* for ſome diſtance; this *efflux* is prohibited on ſome part from the *Sea*, and ſo the *water* of *Garumna* is at a ſtand alſo for ſome ſpace, before that the *Sea* by reaſon of the *Moon* entreth its *Channel*.

As for the encreaſe of *Zenega*, which only hath four hours, whether the cauſe ought to be aſcribed to the extenſion of the *Channel* from the *Weſt* to the *Eaſt*; or unto the ſwift *deflux* of *Zenega*, which may prohibit the influx for two hours: or whether to ſome other cauſe, I queſtion, and require a more accurate obſervation. *viz.* Whether it decreaſeth eight hours, or only ſix hours; and in the other two do neither encreaſe nor decreaſe, becauſe the ſtrong flux of the River hindereth the flux.

That alſo muſt be conſidered, that depreſſed and low places may have the flux in more hours, and the deflux in fewer.

Propoſition XX.

Whether the flux doth begin when the Moon toucheth the Horizon, or in the increment be in the place, whoſe the Horizon is.

So they commonly ſay: but yet we hold the contrary in thoſe places, in which the *water* is at the higheſt, when that the *Moon* is in the *Meridian*. For when the *Moon* declineth from the *Æquator* towards the South, then ſhe *arriveth* at the *Meridian* in leſs than ſix hours, and therefore the flux ſhould begin when that the *Moon* is yet depreſſed beneath the *Horizon*. On the contrary, when that the *Moon* declineth from the *Æquator* towards the *North*, ſhe requireth more than ſix hours to come from the *Horizon* to the *Meridian*; and therefore when that the *Moon* is elevated above the *Horizon* unto the *horary Circle* of the ſixth hour, then at length the flux begineth, and ſo it is obſerved in moſt places; but the contrary is at *London*, as we have ſaid in the precedent *Propoſition*. And the reaſon ſeemeth to require, that although the *Moon* decline from the *Æquator* towards the *North*, yet that the flux ſhould begin in the place where the *Moon* cometh to the *Horizon*: for then the place is diſtant by a *quarter* from the place unto which the *Moon* is *vertical*. And therefore the preſſure of the *Sea* cometh or extendeth hither: and here more accurate obſervations are required.

See Propoſition xix.

Propoſition XXI.

The hour being given, in which the greateſt or leaſt Altitude of the water is on the day of the new or full Moon in the place where the ordinary flux and reflux is (viz. of ſix hours, with twelve degrees) to determine the hours of the days following after the new Moon, in which the greateſt or leaſt Altitude ſhall be.

See the foregoing Propoſitions.

We have ſaid in the foregoing *Propoſitions*, that the time of the greateſt increaſe and decreaſe (if we have reſpect to the middle *motion* of the *Moon* from the *Sun*) in one day after placeth 48 ¼ *horary minutes*, in half a *day* 24 ⅛ *minutes*.

If therefore the greateſt increaſe in any place happen on the *day* of the *new* or *full Moon*, on the twelfth hour of the *day*, theſe hours of encreaſe ſhall be on the following *daies*.

The

The age of the Moon.	The hours of the day.	Scruples.
1	12	48
2	1	37
3	2	27
4	3	17
5	4	5
6	4	55
7	5	59
8	6	49
9	7	23
10	8	12
11	8	56
12	9	51
13	10	40
14	11	29
14	12 Mid night.	
15	12 Mid day.	

Viz. In the end of the firſt day of the age of the *Moon*, the greateſt *intumeſcency* falleth out later by 48 ¼ *Horary minutes*. But in practice it is ſufficient to add to the *hour* of the *new Moon* for the end of the *firſt day* 48 *minutes*, or ¼ of an *hour*.

For the end	Hours.
of the ſecond	1 ½
for the third	2 ¾
for the fourth	3
for the fifth	4
for the ſixth	5
for the ſeventh	5 ¼
for the eighth	6 ½
for the ninth	7
for the tenth	8 ¼
for the eleventh	9
for the twelfth	9 ¼
for the thirteenth	10 ½
for the fourteenth	11 ¾
for the fifteenth	12

This Supputation of time ſuppoſeth the middle or equal *motion* of the *Moon* from the *Sun*, which notwithſtanding is unequal, ſo that the *Moon* in her *Perigee* departeth more ſwiftly from the *Sun* than in her *Apogee*, and therefore then the greateſt encreaſe is longer protracted than ſix *hours* and twelve *minutes*. But when the *Moon* is in the *Apogee* the encreaſe is more quick. For certain true *Lunary Months* exceed 30 *daies*, others are leſs than 29 *daies*, when that the mean of 29 *daies*, *twelve hours*, 44 *minutes* is aſſumed.

True *Lunary* Months exceed 30 daies.

But in places where the greateſt, or leaſt *Altitude* is made by the appulſe of the *Moon* to a certain vertical place, although it be done after the ſame manner, yet for all that the time is not ſo accurately diſcovered.

For neither doth the ſame time, in which the *Moon* is joyned to the *Sun*, fall out on the *hours* of the *day*, or the ſame moments of the ſame *hour* in divers *new Moons*.

How this is performed by the *Terreſtrial Globe*, we ſhall ſhew in the XXX *Chapter*. And in the Thirty ſeventh *Chapter*, we ſhall treat more of the uſe of *Navigation* concerning a more accurat Method.

See Chap. 30. and 37.

We may alſo uſe this method for thoſe places where the time of the *flux* is more or leſs, than in the time of the *deflux*; ſo that we are certain of the difference. The conſideration of the thing it ſelf and practice will more eaſily teach this, than our diſcourſe.

Pro-

Proposition XXII.

The winds do oftentimes protract, and often diminish the time of the flux or reflux in some places. Neither are *winds* of that place only able to do it, but *winds* blowing in an other place may also effect the same.

The truth of the *Proposition* is so manifest, that it needeth no *demonstration.*

Proposition XXIII.

Great is the variety of peculiar or proper motions of the Sea, viz. *in which a certain part of the Ocean is moved either perpetually, or in some certain months.*

Peculiar motions of the Sea.

The first of those peculiar *motions* which are most considerable is that *motion*, by which part of the *Atlantick* or *African Ocean* about *Guinee*, is moved from *Cape Verd*, towards the bending of *Africa*, which is called *Fernando Poo*, that is, from the *West* to the *East*, which is contrary to the general motion from the *East* to the *West*; now this motion is vehement, so that it violently tosseth the *Ships* approaching to the *shoars*, unto this Gulph, beyond the imagination of the *Mariners* and supputation of their Voyage. Thence it cometh to pass, that Ships which have *sailed* in two *daies* from the *Coasts* of *Mourræ* to *Rio de Benin*, (which are one hundred miles) scarcely in six or seven weeks can return from *Rio de Benin* to *Mourræ*; except they launch out into the middle *Sea*, which is not easily to be performed, seeing that the *Sea* is moved with a strong *motion* to the *North-East quarter* from the *Isle* of St. *Thomas* to the *Gulph* of *Fernando Poo*, carrying in with it the *Ships*; although they have a fair *North East wind:* and they can hardly get from that *Coast*, except they be forced thence by those sudden *winds*, termed *Travados*, which sometimes for some months are less frequent, or not at all. For either they perished by *Shipwrack*, being carried or forced on the *Rocks* that lay hidden beyond all expectation, or else the *Seamen* perished by famine, being detained in this *Gulph.*

But yet this *Motion* is not common to the whole *Æthiopick Ocean*; but only to that part which adjoyneth to the *Coast* of *Guinee*, even to that *Gulph* or *Bay*; for in the *Sea* it is not found to be above the distance of fourteen *miles* from the *shoar*, at the distance of one *degree* from the *Æquator.* Therefore *Mariners* sayling by those *Coasts*, are very cautious not to approach over near unto them, so that they may Steer their Course according to their *minds* and the *scituation* of the appointed place.

Now it is difficult to find out the cause of this literal *motion*, especially seeing that the neigbouring *Ocean* is moved by a contrary way from the *East* to the *West*, yet two things may be said,

1. That the *Ocean* being repulsed from the Coasts of *America*, floweth back somewhat towards the *East*; and because that the *Æthiopick Ocean* is extended in a long tract to the *Gulph* of *Fernando Poo*, therefore it refloweth into this, which yet is only discovered at the *shoars*, not in the deep *Ocean*, because in this the contrary motion rendreth it insensible: but towards the *shoar* the *Sea* is moved more violently, and therefore is chiefly discovered in that *Bay* of *Fernando Poo*, because that the *Sea* by reason of the Rivers flowing in with a great violence, is repelled from the Shoars of the rest of *Africa* (as of *Congo*).

2. There may be a certain *subterraneous Channel* in this *Gulph* of *Fernando Poo*, into which the *Sea* may fall and attract the rest of the *Ocean* with it.

Pro-

Proposition XXIV.

The second peculiar perpetual motion.

The second peculiar motion of the Sea.

About *Sumatra* the *Sea* floweth from the *South* towards the *North*, into the *Gulph* of *Bengala*, and that with a violent *motion*, so that it is probable that by the violence of the *Sea* this *Gulph* was made, and that the *Chersonesus* of *Malacca* was separated from *India*. Whether the cause be that the *Ocean* which tendeth towards the *West*, be forced from so many *Islands*, and the *Promontory* of the Land of *Magellan*; so that it should be carried violently flowing towards the *North*, or whether a *subterraneous Channel* be in that *Gulph*, is to be questioned.

Yet I suppose it is not directly carried to the North, but to a *Collateral quarter*, which declineth towards the West. Yea, this very same *motion* is found between *Java* and the *Land* of *Magellan*. Therefore the *Dutch* sayling towards the *Indies*, direct their Course to that procurrent part of the *Land* of *Magellan*, or the *South* Continent, and then sail from the *South* towards the *North*, *viz.* to *Java.*

Proposition XXV.

The third special perpetual motion of the Sea.

The third special perpetual motion is observed between the *Isle* of *Madagascar*, and the *Promontory of Good Hope*; especially on the Coast of *Africa*, between *Terra de Natal*, and this *Promontory of Good Hope*. This motion is found from the *quarter* of the *North-East*, to the *South-East* (and from the *North* to the *South*, according to the extension of the Coasts) so vehement, that *Ships* with a stiff *gale* can hardly overcome it, and hold the contrary course to *Madagascar*. On the contrary, those who sail from *Canali*, into *Madagascar*, and *Africa*, towards the *Promontory of Good Hope*, without any help of the *winds*, are carried unto it by the motion of the *Sea* alone. I suppose the cause to be, the forcing of the *Ocean* by a general motion to the Coasts of *Africa*, where it findeth a passage. For this motion is not found in the middle of the *Ocean*, or that part removed from the *shoars*, between *India* and *Africa*, from a *Collateral quarter.* But the *Ocean* is moved from the *East* to the *West.*

Proposition XXVI.

The fourth special perpetual motion.

The fourth special perpetual Motion is in the *Pacifick Ocean* on the Coast of *Peru*, and the rest of *America*, where the *Sea* is moved from the *South* to the *North:* questionless the cause is a perpetual *South wind*; which is found to predominate on those *Coasts*, as we have shewed in our *Chapter* of *Winds.* In the *Sea* remote from the *Coasts* this motion is not discovered, neither this *wind.*

Proposition XXVII.

The fifth special perpetual motion.

The fifth special perpetual motion is observed in the *Sea* on the *Coasts* of *America*, from the *Promontory* of St. *Augustin* in *Brazile*, to the *Isles Antilles* in the *Gulph* of *Mexico* towards *Florida*, that is, from the *South* to the *North.* Peradventure the cause is that the *Ocean* being carried by a general motion towards *Brazile*, is repelled, and by reason that a more free and broad passage is granted towards the *North*, thither is carried. The like motion is observed in the *mouth* of the *Streight* of *Manilla* near the *Phillippin Isles.* So in *Japan* a most strong *motion* proceedeth forwards from the Port of *Xibuxia* towards *Arima.*

Pro-

Proposition XXVIII.

The sixth special perpetual motion of the Sea.

The sixth special perpetual motion is in the *Streight Le Maire*, where the *Mariners* of the Prince of *Nassau* found the *Sea* to be carried from the *West* into the *East*. But one observation sufficeth not, especially seeing that *Le Maire* writeth the contrary.

More special motions are found in the parts of the *Ocean* at or near the Coasts, but as yet they are not accurately enough observed, or described.

Proposition XXIX.

Unto the special perpetual motions of the parts of the Ocean, also those do pertain, which great Rivers cause where they exonerate themselves into the Sea.

The River *Zaire* casts itself with a violent motion into the Sea.

So on the Coast of *Africa*, *Loango*, *Congo*, for ten or twelve *miles* from the *shoar*, is a strong motion of the *Sea*, from the Coasts towards the *West*, because many *Rivers*, (amongst which is the great *River Zaire*) cast themselves with a violence into the *Sea*, and so repel the *Sea*, which motion is helped by the general motion. Therefore some *daies* are required that *Ships* may touch those *Coasts*, although they may be distant only one or two *miles* from them.

So at the *Isle Lamon* adjacent to the Coast of *China*, the *Sea* is moved from the *shoar* towards the *East*, contrary to the general Motion which is from the *East* towards *China*: this contrary Motion is caused by the impetuous flux of the great River *Thoucoan* in *China*, but in the *Sea* more remote from *China*, this motion is obstructed by the general Motion: neither is it discovered, beyond the Isle of *Branco*.

Hitherto concerning the *special perpetual motions*: a little must be subjoyned concerning the special fixed, and anniversary motions.

Proposition XXX.

Great is the variety of the special ceasing, or periodical motions; and those periodical fixed, and anniversary motions do all almost arise from *anniversary* and *stated winds*. And *stated* or *fixed winds* of one place may make the motion of the *Sea* fixed in another place.

The flux of the Sea in divers places at certain times.

So between the *Isle Celebes*, and *Madera*, when that the motion is *West*, *viz.* in *December*, *January*, and *February*, the *Sea* floweth to the *South East*, or a more near *Collateral wind* than the *East*.

So at *Java* in the *Streight Gallappa*, when the motion is *West*, *viz.* in *May*, the *Sea* floweth towards the *East*, contrary to his general Motion.

At the *Isle* of *Ceilan*, from the middle of *March*, to *October*, the *Sea* floweth towards the *South*. on the rest of the Months towards the *North*, *viz.* because that in those Months the *North winds* are frequent, in others the *South winds*.

Between *Cochin* and *Mallacca*, the *Sea* floweth with a *Westernly motion* from *April* to *August*, contrary to the general motion towards the *East*: then the rest of the time towards the *West* the *winds* assisting the general motion: the *Sea* floweth here with so great a noise, that those who know not the same, suppose Rocks to be there, against which the *waters* beat; so for some months: after the 15 of *February*, the *Sea* is moved from the *Maldivian Isles*, towards the *East*, and *India*, contrary to the general motion.

At the Coast of *China* and *Camboja*, in *October*, *November*, and *December*, the *Sea* is moved towards the *North-West*; but in *January*, towards the *South-West*, with a very swift course to the Sands *de Champa*, so that they seem to exceed the celerity of a stone that is slinged.

At *Pulo Cato* even unto *Varella* (on the coast of *Camboja*) when *motions* or *winds* do not blow, the swift *motion* of the *Sea* is towards the *South*; but the *motions* or *winds* move towards another *quarter*.

On the Coast of the *Gulph* of *Bengala*, from *Patana* to the Promontory of *Malacca*, in *November* and *December*, a swift course of the *Sea* is observed towards the *South*.

In a *motion* or *wind* from *China* to *Malacca*, in *June*, *July* and *August*, there is a vehement *motion* of the *Sea* from *Pulo Gato* to *Pulo Cambir* on the Coast of *Camboja*.

Many more Examples, but less accurately consigned, are to be read in the *Journals* of the *Mariners*.

At the Coast of *Aguada de san Bras*, not far from the Promontory of *Good Hope*, this is peculiarly observed, that the *Sea* is always moved from the *East* to the *West* towards the *land* so much the more vehemently, by how much the *Occidental wind* opposite unto it is more violent. Questionless some adjacent Coast higher than it, is the cause of it.

Proposition XXXI.

The circular motions of the Sea are threefold.

The circular motions of the Sea, termed Whirlpools and Vortices, are threefold: For some only move the *water* in a round; others some suck in the *water*, and in certain *hours* let it forth again; and others suck it in, but cast it not forth. Although without doubt there be a fourth sort in the *Channel* of the *Sea*, which casteth out and sucketh not in the *waters*. Yet I do not remember, that I have read in any Author such a *Vortex* to be found in the *Sea*; but many are found on the *land*.

The *Chalcidican Euripus* or *Vortex* is famous in *Greece*, especially by reason of the Fable concerning the death of *Aristotle*; it receiveth *water* at certain *hours*, and casteth them out in others.

The *Vortex* at *Norway* is the most noted and greatest of all, for it is related to be 13 *miles* in circuit; in the middle of it is a Rock called *Mouske*. This *Vorago* in six *hours* sucketh in all that approacheth near it; as *Water*, *Whales*, laden *Ships*, and in so many hours vomiteth them all out again with a great violence, noise, and *circumgyration* of *water*. The cause is unknown.

Between *Normandy* and *England* is a *Vorago* or *Whirlpool*, unto which *Ships* are carried with a great swiftness, and being near the *Whirlpool* are repelled back again.

Proposition XXXII.

Of the concussion of the Sea, and its cause.

The motion of the Sea, which we call a Concussion or Trembling, cometh from a spiration or wind, which moveth the Earth or Water it self, and causeth it to rise.

On the Coast of *Biscay* is a place which the Inhabitants call *Capbreton*; there sometimes the *Sea* swelleth without any *winds*, so that it seemeth to overflow the *shore* it self, and on a sudden falleth low. The like *intumescency* is found in a Lake of *Scotland*, called *Loumond*, moved by a *subterranean wind*.

The *Portugals* in *Anno* 1523, in the Sea of *Cambaja* discovered a trembling of the *water*; for in a great calm (as *Maffeus* writeth) all *winds* being still, the *Sea* on a sudden swelled from the bottom; thence the *Ships* began to roul, and to fall foul of one another, to their great astonishment: Now in this great confusion and disturbance, some cast the *lead*, some *pumped*; others more wise bethought themselves of escaping, and got *barrels*, on which they might swim; but on an instant it was found to be an *Earthquake*, which thus also disturbed the *Ships* on the *Sea* as well as the *Land*.

Proposition XXXIII.

Why the Pacifick Ocean is more calm, and without great floods or waves; and why it is easily moved, or rough with a wind.

The cause without doubt is, because its motions towards the West are not hindred by the intercourse of *shoars*, as the *Atlantick Ocean* is.

CHAP. XV.

Of Lakes, Pools, or standing Waters, and Marishes.

Proposition I.

Definitions.

Of Lakes. A *Lake is a quantity of Water in any cavity of a Mediterranean place*, of a notable amplitude and tract, on all sides encompassed with the Land, and at the least having a moderate profundity: But more properly, that is termed a *Lake* which receiveth in, and letteth forth *Rivers*.

Pools. A *Pool* is a small *Lake*, which doth never receive or send forth *Rivers*.

Marishes. A *Marish* is water in a *Mediterranean place*, here and there having the lands extant and about it, or mixed with the *Earth*.

Proposition II.

Lakes are fourfold. *Lakes are Fourfold:* 1. Some neither send forth or receive *Rivers*, and such Lakes, if small, are termed *Pools*; but if large, they are called *Lakes*. 2. Some send forth *Rivers*, but receive none. 3. Others receive *Rivers*, and send forth none: And 4. some both receive and send forth *Rivers*; and some of those send forth greater than they receive, some equal, and some lesser. Also some send forth a *River* almost in the same *line* with that which they receive; others in another *line*, or to another *quarter:* also some receive more than they send forth; some more few, and some equal.

Proposition III.

To declare the generation and conservation of those Lakes, which neither send forth nor receive Rivers.

Those *Lakes* are either great, moderate, or small. Some of the moderate and small perpetually remain so in the *Summer*, and when it hath not rained for a long space, are dried up; and both these are termed *Pools*. Now it is easy to declare the generation of those that are dried up, *viz.* the plenty of *rain*, and cavity and depression of the place in which such standing *Pools* are: For if that any place be situated in the midst of elevated places, all the *rain-water* runeth unto it, and so causeth a *Pool*.

In India are many Pools. So in *India* there are many *Pools* or *standing-waters* made by the industry of the Inhabitants, whereof some are in compass a *mile*, and some *two*, encompassed with a *Stone-wall*, which are filled in the *Pluvious months*, that in the *Summer months* they may furnish those with *water*, who live far from *Rivers* or *Fountains*.

After

After the like mode small *Lakes* and *Pools* are made by the exundations of the *Sea* and *Rivers*.

So the River *Nilus* and *Niger* exundating, when that they have reflowed, leave many *Pools* behind them, which either the Natives fortifie or make, that thence they may draw *water* on the other *Months* of the year. For the same reason, in *Moscovia*, *Finland*, *Lapland*, in the Spring, Summer and Autumn, are many *Lakes*, partly by reason of the *shores*, and partly because of the dissolving of the *Snows* and *Ice*. But although some *Lakes* be dried up in the *Summer*, and after a long cessation of *Rains*; we may not thence firmly conclude, that they had all their *waters* from those *Rains*, for they may be dried up.

As for other Lakes without *Rivers* that are not dried up, their generation may be also referred to the *Rains*, *viz.* if that they have a profound *Channel*, in which so great a quantity of *water* collected from *Rains* may be kept, as that the heat of the *Sun* is not of force enough to consume it all before that another Rain falleth: but it is more probable, that these Lakes have peculiar *Rivulets* in the bottom, from which they receive so much *water*, as is consumed by the exhalation. And this cause alone taketh place in those *Pools* that are found on the tops of *Mountains*; as in the Mountain *Bructerus* in *Cenisius*, and others. Now it is probable, that some of these also were generated long since by a great inundation of *Waters*, and thence conserved by Rivers: nay without question some of these Lakes that are near the *Sea*, and also *salt*, had their being from some inundation of the *Sea* through some passage; as the Lake *Harlem*, and others in *Holland*. There are also many *salt* Lakes in *Peru*.

Not many Lakes without Rivers, and those not large. Neither is there any great number of these Lakes without *Rivers*; some small ones are found in *Moscovia* and *Finland*, the Lake or Pool *Lychnitis* in *Macedonia*, the Lake *Appollonia* in *Mysia*; one in *Carniola*, called *Zrinzee*; a round one in *China*; another called *Hilam* in *Cochinchina*; one in *Zanhaga*; one at the City of *Mexico*, twelve Leagues in length. All these are small, except that in *China*, in comparison of great ones.

The Lake Parima the greatest Lake. There is only one great Lake of this kind in the whole Earth, and which exceedeth all others, to wit, that of *Parima* in *America*, which is about 300 *miles* in length from East to West, and about an hundred in breadth, where broadest; yet nevertheless it doth not receive, nor send forth any *Rivers*. How it had its original is no mean doubt; whether long since caused by the inundation of the *Ocean*, or flowing from some *subterranean Fountains* or *Springs*? Also, whether it be conserved by *Rains*, or from the same *Springs*? It seemeth to me probable that it hath *Springs* at the bottom, that supply as much as the heat of the *Sun* consumeth.

Proposition IV.

To declare the generation and conservation of those Lakes that neither receive, nor send forth any Rivers.

Of the Generation and Conservation of Lakes, that neither receive nor send forth Rivers. There is an infinite number of these Lakes, seeing that most *Rivers* flow from Lakes, as from *Fountains* or *Springs*; especially those that arise in *Moscovia*, *Finland*, and *Lapland*, *viz.* where there is any cavity in the place of a *Spring*, but not so large as to contain a quantity of runing *water*, then it becometh a Lake; thence proceeds a *River*, the *water* gliding to the adjacent places. Neither may we doubt, but that these Lakes have their generation and conservation from *Springs* in the bottom, whether it be a true Spring, or an apparent Spring, *viz.* Water flowing from another place thither through a subterraneous passage; which last appeareth more probable in reference to certain Lakes which immediately send forth great *Rivers*. Of such small Lakes there is a great multitude, as I have said; as *Volga*, from whence is the first original of the River *Volga*; *Odoium*, from whence floweth *Tanais*; *Adac*, the original of one of the branches of

the River *Tigris*; *Osera* in *Moscovia*; the Spring of the River *Sosnam*, which is discharged into *Volga*; and many other small ones, we only reckon up the greatest of most note.

1. The famous Lake *Chiamy*, not far from *India*, in the *latitude* of 31 *degrees*, from which run four *Rivers* of note, magnitude, and inundation into the Kingdom of *Sian*, *Pegu*, and the like, *viz.* the Rivers *Menam*, *Axa*, *Cosmum* and *Martavam*; but some *Maps* have a very small River which runeth into this *Lake*.

2. The Lake *Cincuyhay* in *China*, which sendeth forth a great River towards the North, which joyned with another entreth *China*.

3. The Lake *Titicaca* in *America meridionalis* of 80 *miles* compass; it sendeth forth a great *River*, which terminateth in a small *Lake*, neither is it seen any farther: and about this Lake are many *Cities* and *Towns*.

4. In *Nicaragua* in *America* is a *Lake* so called, about *four miles* from the *Pacifick Ocean*, and 100 *miles* from the *Atlantick*, into which it runeth in a great *Channel*.

5. The Lake *Iroquois* in *Canada*, the original of the *River* of St. *Lawrence*.

6. The Lake *Annibi* in *Asia*, under the *latitude* of 61 degrees.

Proposition V.

To declare the generation and conservation of those Lakes that receive Rivers, and let out none.

Of Lakes that receive Rivers, and letteth out none.

Now it is manifest, that these *Lakes* are generated and conserved from those *Rivers* which they receive, and that flow into them: For when that *Rivers* having gone from their *spring*, and arrived in their passage at any noted and ample cavity, the *water* is collected in this, and maketh a *Lake*.

Now if the *Earth* at the bottom prove porous, it sucketh in the *water*, and transmitteth it the to adjacent *Earth*, or that which I suppose to be more frequent, if there be a *Subterraneous passage*, or that such an one be caused by the *water*; through this part of the flowing *water* is carried away, so that on that account the *Lake* doth not flow over.

Of these kind of *Lakes* there is but a small number on the *Earth*.

1. In the preceding *Proposition* we have said, that the lake *Nicaragua* sendeth forth a River, which endeth in a small *Lake*; this *Lake* therefore shall be one of this number.

2. The Lake *Asphaltites* in *Palestine*, termed also the *Dead Sea*, receiveth the River *Jordan*, but sendeth forth none; it is seventy *miles* long and five broad.

3. A small one in *Asia minor*.

4. A small one in *Macedonia*, called *Janna*, which receiveth little *Rivers*.

5. The *Lake* of *Geneva*.

6. A *Lake* in *Persia*.

7. The Lake *Soran* in *Moscovia*, which receiveth two small *Rivulets*.

8. The River *Ghir* in *Africa*, rising in *Mount Atlas* endeth in a *Lake*, as *Leo Africanus* writeth, and so some *Maps* do represent it: but others bring the River into *Nubia*.

Proposition

Proposition VI.

To explain the generation of those Lakes, which both receive and send forth Rivers.

Of Lakes which both receive and send forth Rivers.

There is a threefold difference of them, as we have said in the second *Proposition*; for either they receive a greater quantity of *water* than they send forth, or an equal quantity, or a lesser. If that they send forth a greater quantity, it is manifest that that *Lake* hath occult *springs*. If less, it is a sign that there are secret *Aqueducts* in the bottom, or a spungious Earth: but if it be equal, we gather that there are neither occult *Aqueduct* nor hidden springs in the bottom. The cause of the *generation* therefore is partly the same, which we shewed in the *fourth Proposition*, *viz.* the *cavity* and *depression* of the place, and the quantity of *water*, unto which are adjoyned occult *springs* and much *rain*, and dissolved *Snow* and *Ice* help on the same.

Those that are generated from the *influx* of one *River*, they are placed in the middle tract of the *Rivers*, and render the *Rivers* directly, and of these there are a great number. So the River *Niger* maketh four *Lakes* in its passage. The *Nile* maketh many *Lakes* in its passage, which the *Maps* do not shew. The River *Duina* passeth through six or seven at least: and you shall see other *Rivers* in *Moscovia* and *Finland*, in the great *Maps*, to make sixteen *Lakes* before that they come to their *mouth*. But it is best to consider those, which produce other *Rivers* than they have received.

The most famous for *magnitude* are these:

The Lake *Zaire*.

1. *Zaire*; a *Lake* of the procurrent of *Africa*, lying between the *thirteenth* and *sixth degrees* of *South latitude*, and therefore in *Longitude* hath 105 *miles*; in the midst of it lieth an *Island* (besides other small ones) of that *magnitude*, that they can bring into the field at least twenty or thirty thousand *fighting men*. This Isle doth in a manner twice cut the *Lake*, so that one part is accounted for a peculiar *Lake*, it is called *Zembre*: from this *Lake* flow three mighty Rivers, *Nile*, *Cuama* and *Zaire*; but certain small *Rivulets* do flow into the same, which do not only seem sufficient to supply the greatest of the same; so that it is probable, that it hath certain *springs* at the bottom, although the inundation to be ascribed to be the showers that fall in the *pluvial months*.

The Lake *Zaflan*.

2. *Zaflan*; a *Lake* not far from *Zaire* between the *tenth* and *sixth degrees* of *South latitude*, and therefore about sixty *miles* in *Longitude*: It sendeth forth a branch into the *Nile*, and receiveth small *Rivers*.

The Lake *Sathaf*.

3. The Lake *Sathaf*, not far from *Zaire*, towards the *Promontory* of *Good hope*, sendeth forth a *Rivulet*, which being augmented with other *waters*, at length maketh the River of the *holy Ghost*: It receiveth small *Rivers*.

The Lake *Aquilunda*.

4. The Lake *Aquilanda* receiveth a branch from the Lake *Zaire*, and sendeth forth many *Rivers* into *Congo*.

The Lake *Onega*.

5. *Onega*; a Lake in *Finland*, between the 60 and 63 *degrees* of *Latitude*, hath 44 *miles* in length and 30 in breadth, where it is at the broadest: It receiveth many small *Rivers*, which proceed from other *Lakes*, and sendeth forth the moderate River *Sueri* into the Lake *Lodoga*.

The Lake *Lodoga*.

6. The Lake *Lodoga*, 50 *miles* long and 15 broad; it receiveth the River *Sueri* from *Onega*, and many lesser from other places; a moderate one from *Ilmen*, a noted *Lake* in *Moscovia*. It sendeth forth a River into the *Baltick Sea*.

The Lake *Ostra*.

7. The Lake *Osera*, receiveth the River *Kousam*, and others, and sendeth forth *Sosnam*, which runeth into the *Volga*.

The Lake *Enarack*.

8. *Enarack*; a Lake or Marish in *Lapland*, in length 40 *miles*, in breadth 15: It receiveth the River *Avilan*, and other lesser *Rivers*, and sendeth forth the River *Paes* into the *Lappian Sea*.

9. *Ula*,

The Lake *Ula.* 9. *Ula*, a Lake in *Moscovia* 30 *miles* long, and 15 broad; it hath in the midst of it an Island, as in the Lake *Zaire*: It receiveth a River that passeth through 10 *Lakes*, and sendeth forth a famous *River*. There are many more in *Moscovia*, *Finland*, and *Norway*.

Lakes in *China.* 10. In *China* are four famous *Lakes*, which receive *Rivers*, and again distribute them into divers parts.

Lakes in *Brasil.* 11. In *Brasil*, in the same manner as in *China*, are the Lakes *Euparia*, and *Puerto de los Reyes*, in which the Rivers *Argenta* and *Omoranna* do meet and pass through.

Proposition VII.

Many Lakes contain fresh Water, very few salt or Marine.

Divers Lakes contain fresh-water, very few salt. Those that have their being from *Rains* or *Rivers*, as also those that have their own proper *springs* more remote from the *Sea*; but those that are caused by an inundation of the *Sea* through a certain passage, are *salt*, as also some which have springs of *Salt-water* in the bottom: So the Lake *Harlem* and others in *Holland*, are *salt*. There is a *salt Lake* found in the Isle of *Madagascar*, in *Peru*, in *Cuba*, which hath two Leagues in circuit, situate not far from the *Sea*, and although it receive certain Rivers of *fresh-water*, and breedeth *Fish* and *Tortoises*, yet it is *salt*. So the Lake *Asphaltites*, although it receive the *fresh-water* of *Jordan*, yet it is not sweet, but sendeth forth so stinking and violent a vapour, that the circumjacent land for the space of half a *mile* is barren.

Proposition VIII.

Whether the Caspian *Sea be a Lake, Streight, or Gulph of the Ocean.*

The *Caspian* Sea, whether a Lake, Streight, or Gulph. Some will have it to be properly termed a *Sea*; but no *Sea* can properly be termed a *Sea* except it be a part of the *Ocean*, that is, except it doth adhere to the *Ocean* by some manifest tract; but they will have it joyned to the *Ocean* by some *subterraneous passage*. The *Ancients* indeed would have it to be joyned with the *Indian Ocean*, others with the *Northern*; but experience sufficiently sheweth both to be deceived. Concerning a *subterraneous passage* the matter is uncertain; yet it seemeth to be probable from thence, that it receiveth so many *Rivers*, and those noted for great quantities, which quantity of *water* the Channel could not possible contain, except that it exonerated the same by *subterraneous Caverns* and *passages* into the *Ocean*. But others suppose that quantity of *water* otherwise to be consumed, *viz.* that it penetrateth not into the *Ocean*, but into the vicine *Mountains*, of which there is a great number, and almost all send forth *springs*. *Scaliger* and others assert, that this *Caspian Sea* is carried by a *subterraneous passage* into the *Euxine Sea*; but he alledgeth no probation of it: yet that may be a sign, by reason that the *Euxine Sea* perpetually sendeth forth *waters* in great abundance through the *Bosphorus*, which abundance of *waters* some think that it doth not receive from the *Rivers*, but by a *subterraneum passage* from the *Caspian Sea*: But it seemeth not so to me to have any conjunction with the *Sea*, and therefore I suppose it to be a *Lake*, and so rather to be called, than a *Sea*. Now whence it was first generated is a greater difficulty; Some say, that great *Mountains* of *Salts* are found in its bottom, and that thence it hath its saltness; but the *water* they suppose to proceed from the multitude of *Rivers* that exonerate themselves into this *Lake* or *Sea*. Yet although these *waters* make to the conservation of it; yet I think it more probable, that this *Sea* for some Ages since was conjoyned to the *Ocean*; neither do I question but that the *Euxine Sea* will at length become a *Lake* for the same reason, the *Bosphorus* being obstructed.

Proposition

Proposition IX.

To make a Lake in a place, if that it be possible.

Of making Lakes. It may be done, if that there be a *River* in the land adjoyning, or that a Spring be found in the *place*, and that the place be somewhat more depressed and low than the adjacent places; although small *Lakes* may be also made on the tops of *Mountains*: therefore the place must be hallowed, and the *earth* dug away unto so great a depth and amplitude as we require, and its sides must be fenced with *banks* upheld by *wood*, if need so require; then an Inlett being made from the Channel of the *river*, the *water* must be let in; or if that a Fountain in that place affordeth a sufficient quantity of *water*, there is no need of that *inlett* or *aqueduct*.

Proposition X.

To take away, or dry up a Lake.

Of drying up of Lakes. That may be performed two ways; 1. If the bottom of that *Lake* be higher, or of almost an equal depression with the vicine place, an *Aqueduct* being made, the *water* will flow from the place or Lake, and at length will render the bottom dry, the heat of the *Sun* assisting, and *Earth* being cast in. 2. If that the bottom of the *Lake* be lower than the vicine place, it must first be fenced with a trench in its whole circuit, leaving only some *Channels* or open passages; then making use of *Water-mills*, the *water* must be expelled and drawn out, and then the bottom must be covered with *earth* and *dung*, and such seeds cast in, which suddenly will take root, as *Mustard-seed*, *Coleworts*, and the like. By this mode the *Dutch* very well know how to drain *Lakes*, and to make fruitful *lands* of them.

Proposition XI.

Marishes are of two sorts; some are ouzey, and consisting of a mixt substance as it were, viz. *of Water and Earth, so that it will not suffer the footsteps of a man: others have small standing Pools, with small portions of dry land here and there.*

Marishes are of two sorts. Of the first sort are those that receive or send forth no *Rivers*; such *Marishes* are in *Holland*, *Brabant* (where is the *Marish de Peel*,) and many in *Westphalia*, to which some of the second sort are admixed. But many of the second kind are found at the *originals* or *springs* of Rivers, whence some are wont to call these Springs or Fountains, *Marishes*; as the *Marishes* of *Tanais* in *Muscovia*, of the *Nile*, &c. Such *Marishes* also seem to be in *Sævolax*, a Province in *Finland* in a great tract of *land*; also the *Marishes* of *Enarack*; the *Chelonides* Marishes of *Africa*, the *Marishes* of *Chaldea*, through which the *Euphrates* doth pass. These *Marishes* are frequently found in *Woods* and *Desarts* that are *Bricose*, because that the *rain* which irrigateth those *lanes*, and collecteth in its cavities, is not attracted by the *Sun*, by reason that the Leaves of *Trees* do repel its Rays. Such kind of *Marishes* are found here and there in *Germany* and *Moscovia*.

Moreover these *Marishes* of the second sort are four-fold; *viz.* some both receive and send forth *Rivers*; some only receive, some only send forth, and some neither receive nor send forth. The first sort are generated and conserved, partly by occult *springs* and *water* effused before that it be brought to a certain *Channel*, and also from a greater quantity of *water* than can possibly be brought through a *Channel*; many of which sort are in *Moscovia* and *Finland*: *Marishes* of the last kind probably are conserved, and spring from *rain* and small *springs*. *Aristotle* calleth the *Palus Mæotis* a *Lake*, and that more rightly.

Propo-

Proposition XII.

Marishes have a sulphurous, bituminous, and fat Earth.

Of the earth of Marishes.

This is discovered both from the black colour, and from the Reeds which are generated from it, and easily take fire, as is found in *Holland* and other places. The cause is, by reason that such substances are contained in the raise of the *earth*, where these *Marishes* do exist. Yet all *Marishes* are not such; but where the Earth is stony and hard, there are no *Marishes*: for where there is a soft *earth*, there for a certain is a fat and sulphurous substance.

Proposition XIII.

To drain Marishes and Fens.

Of draining of Fens.

Although some *Fens* have an high profundity, yet no more is required to drain them to such a depth; which we may do, if that we cause the *water* to flow away by some *Channel* or *Aqueduct*. 2. If that after some *weeks* they have been dried by the *Sun*, we cast in a great quantity of dry *earth*. 3. If that we make a fire upon them: and 4. If that we hinder *water* from flowing into them; as *rain*, and the like.

CHAP. XVI.

Of Rivers in General.

Proposition I.

We comprehend in this Proposition the definitions necessary for this doctrine.

Of Rivers, and their definition.

1. A *River* is *water* flowing from a certain place of the *Earth* to another place in a long tract, and within its *Channel*. A *Channel* is that cavity in the *Earth* in which the *water* is contained, which is more depressed and lower than the *shore* of that *water*.

2. A *Rivulet* is a River that hath not the profundity and breadth, as to admit of small laden *Vessels*.

3. That is termed *Amnis* which admitteth of those *Vessels*; but if they will bear moderate *Vessels*, great ones laden, then it is called by the general term of *Fluvius*, and *Flumen*.

4. That *water* is termed a *Torrent* which floweth from the Mountainous places with a violence.

5. Where two Rivers meet, that place is called a *Confluence*.

6. A River or Rivulet which floweth from another, is termed a *Branch* or *Arm*; yet for the most part it is taken for such an *arm* which is lesser than the other part of the River. Yet those are also frequently termed *Arms* which proceed from a River divaricated into two Channels.

7. A *Fountain* or *Spring*, is *water* bubling and flowing forwards from a certain place of the *Earth*.

8. A *Well* is, when the *water* bubleth up, but floweth not forwards.

Pro-

Proposition II.

Torrents and Rivulets may sometimes proceed from a quantity of rain, and dissolved Snow.

From whence Torrents and Rivulets do proceed.

For in the Mountainous, or more elevated parts of the Earth, are found many *Cavities*, small *Lakes*, and standing *Pools*: Now if that so great a quantity of water flow into these from the falls of *Rain* or *Snow*, that they cannot well contain them, they overflow and run down on the more depressed places; and because that on every *year* this happeneth, it maketh a *Channel* for it self: but sometimes *Torrents* do flow without any *Channel*. From this cause, *viz.* *Rains* and the dissolution of *Snow*, many *Rivulets* are made also *Torrents*, and moderate or indifferent Rivers in those places, which have ridges of Mountains in a long tract, as the *Procurrent* of *Africa*, *India*, *Peru*, *Sumatra*, and the like. And these *Rivulets* flow neither in the *Summer*, nor in the *night*, but only in the *day*.

Proposition III.

Most Rivulets proceed from Fountains. But Rivers of a great magnitude, have their Original either from the congress of many Rivulets, and indifferent Rivers, or flow from Lakes and Marshes. For no Rivers of any considerable magnitude (as the *Albis*, the *Rhine*) *do flow from one Fountain, but exist from many small Springs, or Lakes*: But these proceeding from *Lakes*, are augmented by the accession of other *Rivers*. The River *Volga*, or *Rha*, receiveth two hundred and more partly *Rivulets*, and partly indifferent *Rivers*, before that it discharged it self into the *Caspian Sea*; and the *Danube*, as many before she flow into the *Pontus*.

Rivulets proceed from Fountains.

And although that *Pliny* and *Cardan* write, that no Rivers flow into the *Nile*, yet experience testifieth the contrary to them that have travelled in *Abyssine*. The *Proposition* is easily proved by an enumeration of Examples.

Springs proceed commonly from Hills & Mountains.

The *Springs* of some *Rivulets* and Rivers are in Mountains, and elevated places; and some on a *Plane*. As for the *Springs* of those Rivers that proceed from *Lakes*, we have said in the former Chapter, that those *Springs* are in the *bottom*, or *Channel* of the *Lakes*: and that such *Lakes* are as it were *Conduits* and *effusions* about the *Spring*, before that the water floweth in a *Channel*, or in a greater quantity. For some *Spirngs* are covered with Earth or water, others open.

The *Springs* on a *Plane* are of those Rivers, from which *Tanais* and *Albis* exist in their first tract, unto which others do accede. It were easie to collect other Examples.

Cardanus denyeth these Fountains to be generated in these plane places, but to be derived from the vicine Mountains, by some *subterraneous passage*. But I suppose that such *Springs* first make a standing *Pool*, or *Marsh*. For *Tanais* seemeth not to flow from a *Spring*, but from a *Marsh*, or some less profound *Lake*.

Many are the Mountainous *Springs* of *Rivulets*, as of those of the *Rhine*, *Po*, *Danube*, *Borysthenes*, &c.

The *Nile*, *Wolga*, and the great River of St. *Laurence* in *Canada* flow from a *Lake*.

Yet there is one *mode*, by which from one Fountain a great River may proceed, *viz.* if that the Fountain be on an Elevated place; but the *Channel* of the River must be a little higher than the *Altitude* of the

inlet. So the flowing water, first in a more swift Current, then in a more slow, is collected in the *Channel*, and in course of time may be a very great River, by reason that so much did not flow out in the first generation.

Proposition IV.

Rivers are very much augmented by frequent Rains, and dissolved Snow, and that in divers seasons and months of the year.

Rivers are much encreased by rain and snow.

So in the *Region* of *Peru*, and *Chili*, some Rivers are so small that they flow not in the night time, but only in the day; because that then the water floweth from Snow dissolved on the Mountains of the *Andes*, through the heat of the Sun. So the Rivers both in the *Oriental* and *Occidental* Coast of the procurrent of *Africa*, as in *Congo*, *Angola*, and the like, are bigger in the day than in the night. So it is also in the shoars of *Malabar*, and *Chormandel* in *India*. Yea in those four *Regions* in *Summer* time the Rivers are almost dried up, and in the *Winter*, or wet season, are overflowing. So *Wolga* in the Months of *May*, and *June*, aboundeth with water, so that the *Lands* and *Islands*, are then covered with water, in the other Months the Sands will hardly admit a passage over them for Ships that are laden. The reason is, because that then, the Snow is dissolved on the Mountains, whence those Rivulets proceed, which being more than one hundred, do exonerate themselves into the *Volga*. So the *Nile*, *Ganges*, *Indus*, &c. are augmented from rains, or Snow: so that they overflow the *Lands*. But these augments happen in a different season, because that they arise from divers causes, and divers places; for by reason that rains are more frequent in the *Winter*; therefore Rivers are more high at the season, except another cause intervene from the dissolution of Snow, which sometimes happeneth in some places and Mountains in the *Spring*, in others in the *Summer*, and in others in the intermedial time, by reason that the Snow is then dissolved on the *Mountains* that are adjacent to the *Rivulets* of these Rivers. Moreover some Rivers, especially the greater, proceed from remote places, where it is then *Summer*, when it is *Winter* in the place through which they flow; and those variations cause the swelling of Rivers in divers seasons. But most Rivers do so in the *Spring*, because that then Snow is dissolved in most places. The variety of these causes must be shewed in the particular description of every River.

Concerning that peculiar *Spring* of *Japan*, which floweth every day only for two hours, we shall speak in the following Chapter.

Proposition V.

What may be the Original of that water which floweth from Springs? Or whence are Rivers generated?

The cause of water flowing from Springs.

We have before our eyes the great River *Rhine*, *Albis*, and others, the generation of which by reason of their abundance of waters, seemeth more admirable than that of *Rivulets*: but we have shewed in the precedent and third *Proposition*, that the water of Rivers partly proceeds from rain, and the dissolution of Snow, partly from Lakes, and partly from the meeting of *Rivulets* and Rivers. Therefore the question is not so much concerning the Rise and Springs of Rivers, as the Original and perpetuity of *Fountains* and *Springs*.

The Opinion of Philosophers, and Geographers, are various.

The Opinions of *Philosophers* and *Geographers* concerning it are various.

1. Some

1. Some think that all the *water* of *Springs* of *Rivers* proceed from *Rain*, or dissolved *Snow*. And this they take for a sign of it, that *Rain*, and dissolved *Snow* do much augment the *Rivers*, that oftentimes they extend beyond their *Channel*, and overflow *Regions*: also that *Rivers* do much decrease, and some lesser sort of them are altogether dried up, when no *Rain*, for a long while in the *Summer season*, hath fallen; because that their *Channel* is not very profound, and therefore have collected little water: but those that have a deep Channel are not dried up in the *Summer*, by reason that they have gathered so much *water* from the *Rains* that fell, and dissolved *Snow*, so that all cannot be turned into vapours, except by a daily and continual heat. 2. Because that there are very few *Rivers* in those places where there is little *rain*: as in the more inward part of *Africa* there are few *Springs*.

But these allegations resolve not the question, because we are not to demand, or seek the Original of *Rivers*, but only the Original of the *Water* of *Fountains*. Therefore those that speak thus, have not well considered the sence of the question, as we have taken notice before; although also the experience that they alledge, is not general, because that there are *Rivers* found in places, where there is little *rain* and no *snow*; although it be true in the Region of *Peru*, and *Ægypt*, which they assert. Moreover *rain* moistneth not the *Earth* above *ten foot* deep: but *Fountains* spring from a far greater profundity.

The Opinion of *Seneca*.

2. Others suppose, that we should not demand whence the *water* of *Fountains* doth arise, by reason that *water* is an Element as much as *Earth*, *Air*, and *Fire*, concerning the Original of which we do not dispute; thus *Seneca* discourseth. But other Authours cut in twain this *Gordian knot* with the Sword of *Alexander*. For it is not enquired after, how that water hath a Being, but how it cometh to the places of Fountains, and not to other places. Moreover, the *Earth* doth not so flow forward as *Rivers* do. But for the *Air*, it is false that we should not seek concerning it, as they determine.

See *Aristotle lib.* 1. *Chap.* 11.

3. *Aristotelians* follow the opinion of their *Master*, who in the whole *Eleventh Chapter* of his first Book of *Meteors*, endeavoureth to prove, that the *water* of *Fountains* is generated from *Air*, contained in the *bowels* of the *Earth*. He alledgeth these reasons; 1. *Waters* are generated from *Air* above the *Earth*, *viz.* *Rain*: therefore seeing that *Air* is in the *bowels* of the *Earth*, and that there is the same cause of condensation, *viz.* Cold: therefore he saith it is absurd for any one to think that *water* is not produced from *Air* there. 2. Experience testifieth that more great drops that fall, are made of small ones, and therefore the Original of *Rivers* must be, as it were, certain *Brooks* of *water* that meet in one part of the *Earth*; for therefore those that make *Aqueducts*, are wont to bring the water down by *trenches*, and small *Channels*. 3. Because that many *Springs*, and those of the greatest *Rivers* are found in mountanous places, very few in *Plains*, or *Valleys*: which is an evidence, that the *water* of *Fountains* proceedeth from a condensed *Air* or *Vapour*; which *Air* and *Vapour* tend towards higher places, and mountainous places are as it were spunges incumbing over lower places. Those are the reasons of *Aristotle*.

The Opinion of *Cardanus*.

4. *Cardanus* with others, suppose, that the water of *Fountains* proceeds from *Rivulets*, which are generated of *watery* vapours, condensed both within, and without the *Earth*, but that these *Fountains* alone scarce make up *Rivers*, unless assisted by *rain*, or dissolved *Snow*. His Reasons are these, 1. If betimes in the morning one view the *Mountains*, they will appear moist. 2. *Rivers* overflow in the *morning*, and so much the more, by how much the part of it is more near the *Fountain*.

But the perpetual and constant *impetus* of the *water* bubling and leaping from the *Springs*, doth not seem to have its Original from so weak and inconstant a cause. Neither doth this opinion of *Cardanus* much differ from that of *Aristotle*; but that *Aristotle* placeth *Air* with the generation, *Cardanus vapours*, with the generation, to be the cause of *Springs*, and indeed small is the difference between *Air* and *vapours*.

5. Some of the *Antients* supposed *Rains* to be coacervated within the *Earth* in Cavities, and thence to break forth as from a mighty belly, and that all Rivers sprang from one of them, or from some other of them; neither that there was any other *water* generated, but what were collected in the *winter months* into those receptacles, they supposed to evade into the multitude of these *Rivers*, and therefore that they flowed more in the *winter* than in the *Summer*, and that some were continual, and some not. They added the same cause that we have laid down in the first opinion. But *Aristotle* receiveth this opinion, because that more *water* in one year floweth out from the mouth of the *River*, than the bulks of that whole part of *Earth*, or *Land*.

6. Of Modern *Philosophers* many, as also of the Ancients, determined that the *Earth* again received whatsoever *waters* flowed out from the mouth of the *Rivers* into the *Sea*. For the *water* of the *Sea* by an hidden passage went under the *Earth*, and is beaten in its passage through divers windings of the *Earth*, and strained through *Sand* and *Chalk*, which removeth its saltness, and so passeth into pure water. I also defend this opinion, and suppose it true, yet so as not to exclude the cause laid down in the first and third place: the reasons are these. 1. Because more than one thousand *Rivers* exonerate themselves into the *Sea*, and the greater of them in such an abundancy, that that water, which they send forth into the *Sea* throughout the whole year, exceedeth the whole *Earth*; as the River *Volga* into the *Caspian Sea*, and also other Rivers. Therefore it cannot otherwise be, but that *water* must be sent forth into many places of the *Earth*, even to the Fountains of *Rivers*. Now if that this were not so, we could not possibly imagine, how that the *Sea* should not be augmented unto an immensity, or why *Fountains* should not cease to send forth water. Neither may it be objected, that so many vapours are elevated from the *Sea*, that are equivalent to the *water*, that the *Sea* hath received from the *Rivers*. For first, only *Rain* maketh those *vapours*: then again it is most false that so great a quantity of vapours should be elevated from the *Sea*, as are generated from the *water* which floweth from the *Rivers* into the *Sea*.

Fountains the nearer the Sea, are salter than those farther distant.

2. This opinion is proved from that, *to wit*, that the *Fountains* near the *Sea* are *salt* and *brackish*; and by how much they are nigher to the *Sea*, by so much they are the more *salt*, as on the Coast of *Africa*, especially on the Coasts of *Choromandel* in *India*, where no Vines do grow, and where that all Wells are *salt*. In the City of *Suez* at the Termination of the *Red Sea*, all Wells are *salt*, or brackish, and the *water* two *miles* distant is somewhat *salt*. So in many *Islands* in the *Sea*, no Wells of fresh *water* are found, (though not so *salt* as the *Sea water* it self) as in the *Isle* of St. *Vincent* and others. In *Peru* in the low Region, the *Lakes* are *salt* by reason of the vicinity of the *Sea*. Yea in the Oriental Maritimate places, the *Nuts* called *Coco Nuts* are found somewhat salt. Also in the *Mediterranean* places themselves, *Fountains* of *salt water* are found, as in *Lorrain*, *Lunenburgh*, and the like.

3. Because that it is manifest, that the Sea emitteth its water through subterraneous passages, from the salt *Fountains* of *Lunenburgh*, where beneath the *Earth* those *Aqueducts* full of salt or *Sea-water* are found.

4. Because that digging to a great depth, as also in *Mines*, much *water* is found, of which neither the *Rain*, nor the *Air* can be made the efficient cause.

How

How water cometh from the *Sea* to the places of *Fountains*, so as to become sweet, we have now shewed, *viz.* the bottom of the *Sea* is not every where *Rocky* or *Stony*, but in many places *Sandy*, *Muddy*, *Gravelly*, *Spungy*, drinking the water of the *Sea*, and by a continuation of the Earth, brings it by degrees to a long distance from the *Sea*; where at length the *Guttulæ* unite; especially in a narrow space, such as are *Mountains*; and make a *Fountain* in the given place, or Cavity: but if so be that Cavity be hidden from the *Earth*; then the *water* so collected either followeth another way, wheresoever it be made, and so a *Fountain* seemeth to break forth in another place, which yet is not in that place; but is a River derived from the former place by a *subterraneous passage*. Or if that the water of that Cavity findeth no way about it self, neither by violence can break through the Earth that covereth it, then that *water* is not augmented; but what *water* flowed unto it to have been its encrease, that is averted to another place. For that is the property of all humid bodies, that all their parts and particles are moved towards that place where the defluxis made. So if you fill a *Vessel* with *water*, that the swelling or tumour may be above the brim of the *Vessel*, then all the parts of the extant water have an equal inclination, and power of defluxin the vicine part of the brim. But yet by reason of the mutual coherence of the particles (whose cause is declared in *Natural Philosophy*) if that the defluxbe made in one part of the brim, all the other parts leave the vicine *brim*, and draw to that part of the brim, or they follow where the defluxis made. So if you immerge a long crust of Bread into *water*, you shall see the *water* born upwards, and and the part of the *Bread* that is not immerged, to be humid. Moreover the *Sea* goeth under the *Earth* through *Caverns*, from which, after the same mode the water may glide or creep forth, unless you had rather ascribe it to evaporations, which are carried upwards, and uniting the drops in a narrow place.

The Sea goeth under the Earth through Caverns.

But because there are many things, which may seem to render this opinion less probable, these ought also to be considered, that it may be evident, that they weaken not this assertion laid down.

Things to be noted.

1. The places of *Fountains* are more elevated than the *Superficies* of the *Sea*, by reason that most of them are in Mountanous places, therefore water cannot flow from the *Sea* to those places, because the nature of *water* is to move to places more depressed, or less elevated, as it is manifest from Rivers, and the *Artifices* of *Drainers*.

2. Although the bottom of the *Sea* be *gravelly*, *muddy*, and *sandy*, so that the *water* may penetrate it self through its *particles*; yet the reason doth not appear evident enough, but that it may more moisten the adjoyning *Earth*, and that which is not so high, than to glide upwards to the places of *Fountains*, seeing especially that the *Earth* is Rocky and Stony, as in the Mountains of the Island of St. *Helena*.

3. There is no reason, why the *water*, so gliding from the *Sea*, should not break forth in a middle way between the *Sea* and the *Fountain*.

4. In the most profound *Mines*, none, or very little *water* is found, as *Thurnheuserus* witnesseth.

5. This *water* of the *Fountains* should be salt, because that it doth proceed from the *Sea*. These are the chief Arguments which may seem to weaken the opinion proposed. For I pass by those slight ones alledged by others, *viz.* that they suppose that the *Sea* is not sufficient to supply so many *Rivers*; then again that *Rivers* then should never be diminished, if that were the true cause of *Rivers* that we have laid down. But unto these two, the answer is easy, because that the *Sea* again receiveth the water again from the *Rivers*, that it sent forth into the *Fountains*. Then as for the other we have shewed before, that the question is not, neither do we determine, that all the *waters* of the *Rivers* is from the *Sea*; but only concerning the *water* of *Springs*, which is not the alone cause of *Rivers*, as we have said already: and we also assert, that the *water* of *Fountains* is augmented from *rains*, and *Dew*; because that these, moistening the *Earth*, glide, or are drawn towards the places of *Fountains*,

Other Arguments Answered.

Four Other Arguments of great concernment.

tains, where the *efflux* of the *water* is made, which we have explained by other Examples. We come now to those four *Arguments* alledged, which may seem to carry some weight with them.

The first is esteemed very valid, as being taken from multiplicit experience: therefore many solutions are brought, and alledged by Learned men. First, they the most easily discharge themselves, who defend the *Ocean* to be more high than the *Earth*, for so they deny the assertion, and they say that this *Altitude* of the *Ocean* is the cause of *Springs*, because that *springs* are

See *Olearius* his Voyage into *Persia*.

less high than the *water* in the middle of the *Ocean*. Moreover *Olearius* in the Description of his Voyage into *Persia*, relateth that he ascended the *Mountain* that adjoyneth to the *Caspian Sea*, and with an *Astrolabe* (or rather a *Gæodetical* Instrument) to observe the Elevation of this *Mountain* above the *superficies* of that *Sea*, but found none, but that the extream *superficies* of that *Sea* was seen in the *Horizontal Line*, yea somewhat elevated above it, so that the Tumour of this *Sea* was found a little more high than the *vertex* of the *Mountain*, on which he made his observation. But in truth this solution can-

See Chap. 13.

not be admitted of, because we have shewed in the Thirteenth *Chapter*, that the *water* of the *Ocean* is not higher than the *Mountains* and *shoars* of the *Earth*: and the frequent observations of *Mathematicians*, made on *Towers*, or *shoars* testifie it. And as for the observation of *Olearius*, that seemeth to cause no small difficulty here, for that the *Caspian Sea* is no higher than the vicine *Lands*, much less than the *Mountains*, is collected from hence, *viz.* that many *Rivers* do exonerate themselves into the *Sea*, therefore we must say, that refraction obstructed the observation of *Olearius*, and caused the *water* of the *Sea* to appear higher than in truth it was: and peradventure the *waves* of the *Sea* encreased the cause, and the *Mountain* that he ascended was none of the highest.

Some discovering the weakness of this Argument, bring this; that the natural place of water is above the *Earth*, and therefore that it must cover the whole *Earth*, because that it is higher than the *Earth*. Now by reason that it is impeded from its natural place by the *Mountains* above the *Earth*, arising towards the *Mediterranean places*, therefore that part of the *Ocean* which ought to be where the *Mountains* and Elevated parts of the Earth are, seeing that it is not in its natural place, doth press down the subjected *water*, which indeed is in its natural place, but yet is driven or pressed to the bottom, by the Superiour *water*, which is not in its natural place, where when it findeth no way, neither can give place, it retireth towards the sides, and passeth under the Roots of the *Mountains*, where being collected as in a *Cistern*, it is squeezed out by the *water* of the *Ocean*, pressing towards the *vertex* of the *Mountain*. No other than in a *Vessel* which hath on the side a *Funnel* touching the very bottom of the *Vessel*, from whence we infuse *water* or other *liquor* into *Glasses*; If, I say, we drop in a stone into such a *Vessel* full, or half full of *liquor*, the *liquor* flieth out through the Orifice of the *Funnel*. This is the subtilty of *Scaliger*; but in truth it is very thick. For *water* is not expelled so from the bottom of Mountainous places towards the *vortex*, because that experience testifieth the contrary in *Trenches*; and if that were so, all *Spring waters* should be *salt*: moreover it is false that he assumeth, that part of the *water* is not in its natural place, and therefore presseth down the subjected part. for this is taken up *gratis*, and contrary to experience; because that the water presseth not down the subjected part, except when it is higher than the vicine *water*, and therefore where the Superficies of the *Ocean* is *Spherical*, it resteth: but if that any *motion* were made from the pressure, this would drive the *water* of the *Sea* to the *Coast*, where the place is more broad, not through the small *Caverns* of the *Earth*. Now it is certain that *water* floweth in from the bottom of the *Sea* through the great *Caverns*, but they make not the *Fountain* fresh, because they take not away the saltness of the *water*.

I think not the solution of the Argument to be difficult, if that we consider how water cometh to the Fountain, *viz.* not from any *Channel* from the bottom of the *Sea*, or foot of the Mountain (for so it would retain its saltness) but by or through a continual progression of the watery particles, or a creeping in the *Terrestrial matter*, to the places adjacent to the Fountain, where at length it is gathered into drops by reason of the cavity, and continual succession of the water, and so causeth a Spring. For this we find in the Earth dug to a great depth, that here and there drops of water do consist, and are forced by those that are nigh, so that a little *Rivulet* is made, which are termed Veins of water. Many such *Rivulets*, if collected into one Cavity, make a Fountain; as those persons well known that are skilled in making of Fountains, or *Aquiducts*, or Wells. For in Wells water is collected from many drops, which meet together in the bottom of the well, from the adjacent Earth. And those that make *Aquiducts*, bring the water by gutters and trenches into one place, so that the drops may fall from the higher places into the Cavity.

Veins of water in the bowels of the earth.

But if that you object that many Fountains bubble up in the midst of stones, by reason of which it is not probable that the watery particles should so creep forwards; to that I Answer, that this confirmeth our Opinion: For those stones do not go through from the top to the foot of the Mountain (at least in those Mountains, where the Fountains are found) but only occupy the Superficies of the Mountain, and a certain small profundity within the Earth of the Mountain is more soft, or less stony, or at least such as may receive and attract water. Therefore when by penetration it is come to the stony part, because that it can penetrate no farther, there it standeth, and is collected into drops, and maketh a springing Fountain between the stony parts; *to wit*, if that a passage be granted; and that the Mountains and Rocks of the Isle of St. *Helena*, and almost of all Islands, are not within so rocky and hard, is collected from hence, that almost all those Mountains have sometimes burned, or at the least smoaked, which is discovered from the Ashes on the Earth, and also the *Brimstone*, or *Sulphur* found in those places: add moreover what we observed before, that the spring of the water is not alwaies there where it seemeh to be, but floweth from some higher place through a subterraneous passage to the Fountain, and so causeth the water to leap up with some force, which I suppose to be done in many Fountains, and the more, if we consider, that *fire* is moved also downwards, by reason of the continuation of the matter, when in truth, if that the same be free, it tendeth upwards. So if you put the end of a long piece of Iron in the *fire*, this will penetrate through the whole Iron, untill it come to the other extream, although this other extremity doth not tend upwards but downwards.

The second Argument answered.

So much for the first Argument; unto the second I answer, that a reason may be given, why the Sea water should not penetrate so much into the Earth towards the *Center*, as towards the Mountains, *viz.* because the Earth is there more full of Mettals, and hard, as experience testifieth: but where it is not so hard, there the water penetrateth; and therefore we deny not but that Rivers, or at least sweet or salt Lakes may be found beneath the bottom of the Sea, within the Earth, towards the *Center*, where any such Cavity is. But because that there are few such Cavities, and that every where the Earth is Metallous, and hard beneath the bottom of the Sea, therefore it cannot continually imbibe water, but when it is full it ceaseth to imbibe any more; neither doth it receive more. Therefore then the water glideth towards higher places, unto the motion of which, it is probable that the mutation of the heighs of the Sea availeth much; sometimes in this, and sometimes in that part, by reason of the *floods*, *waves*, or *tempest*. For the water being made higher, more presseth the water, and promoteth its ingress through the Earth to the Springs. And seeing that every day the Altitude of the Sea is augmented, and diminished in the parts of the *Ocean*, not only by storms, but also by the flux, and reflux; therefore such a pressure hap-

happeneth every day: but I question whether this cause can effect much.

The third Argument answered.

Unto the third Argument, I say that the reason is the disposition of the places, and of the Earth it self; and as I said, that the humour is moved, and glideth towards that part, where the *flux* is made: neither do I think it needeth any farther explication.

The fourth Argument Answered.

The fourth Argument taken from the saltness, hath a more difficult solution: because that it seemeth not possible, that the saltness should be taken away only by transcolation; for the saltness of the water consisteth in a double *Salt* (which the *Aristotelians* never observed) the one of which, the *Chymists* aptly call fixed, the other volatile *Salt*. And the fixed *Salt* may indeed be separated from the marine water, as well by continual transcolation, as by *coction*, and *distillation* of the water: but the volatile *Salt* because it is *spirituous* is immediately advanced with the water, neither can it be separated by frequent and often repeated *distillation*: Therefore it is hard to give a mode, by which this volatile salt *spirit* in its passage between the *Sea* and the Fountain, may be separated from the *Sea water*. Yet in the mean while these will suffice for the solution. 1. Although we have not discovered the *mode*, and *artifice*, by which this volatile salsitude may be separated from the Sea water, yet we must not deny, but that it may be separated: for by nature we find it separated; *viz.* for fresh showers fall into the *Ocean*, which yet were generated of the vapours taken up from the *Sea*. 2. Those *particles* of *Salt* water penetrating the Earth before they flow to their Fountain, are mixed here and there with other waters proceeding there from *rain*, or *vapours*, and so that small saltitude, that they yet had, is rendred altogether insensible. 3. It is not true that the salsitude is altogether insensible in all *Springs*, because that some Fountains are salt, as we said before; otherwhile some brackish a little, as those, two *miles* from the City *Suez*, and in places less remote from the *Sea*. Therefore there is need of a long transcolation, and gentle evaporation, to separate the water from the volatile *Salt*, and by this artifice we make *Sea* water less *salt*, and such also is the generation of *rain* water, which therefore is not *salt*, or at least less *salt*. For it is certain that sometimes saltish kinds of *rain* do fall into the *Sea*.

Therefore the waters *of* Fountains *proceed partly from the* Sea *or* subterranean waters, *partly from* Rivers, and Dew, *that moisten the* Earth. *But the* water *of* Rivers *partly proceedeth from* Springs, *and partly from* Rain *and* Snow.

Proposition VI.

Certain Rivers hide themselves in the midst of their passage under the Earth, and in another place rise up again as if they were new Rivers.

Of Rivers which in the midst of their passage hide themselves under the Earth, and rise again.

The most celebrated of them are, 1. The River *Niger*, which meeting the Mountains of *Nubia*, is observed under them, and cometh forth again from the other Occidental quarter.

2. *Tigris* having passed the Lake *Arethusa*, meeting the Mountain *Taurus*, is hidden in a *Cave*, and floweth out on the other side. Then when it hath passed the Lake *Thospites*, it is again obscured in *subterranean Caverns*, and then after it hath thus run the space of about six *German miles*, it breaketh forth again.

3. About

3. About *Arcadia* in *Peloponnesus* many such *Riverets* are to be found, as *Aristotle* writeth in his first Book of *Meteors*, Chapter Eleventh.

4. *Alpheus*, a River of *Achaia*, is absorbed by the Earth. The *Grecians* write, that it keepeth its course under the *Sea*, and beneath the *Earth*, even unto *Sicilia*, where they will have it to emerge on the Coast of *Syracuse*, and to be that River that is called *Arethusa* in *Sicilia*. Now this they especially collected from this, *viz.* that *Arethusa* in *Sicilia* every fifth Summer cast up the dung of those Beasts out that time, when the *Olympian Games* were celebrated, and the dung and garbage of the slain Victims were cast into *Alpheus*. Therefore being carried with a direct Current, they were cast up in *Sicilia*.

5. The River *Guadiana*, between *Portugal* and *Biscay*, in times past called *Anas*, wholly disenroch it self at *Medelina*; and about 8 *German* miles further discovereth it self again.

6. *Dan* (which flowing with the River *Jor*, maketh *Jordan*) breaketh forth some miles from its Fountain *Phiala*. *Straw* or *rushes* being cast into the same, are found and discovered in the Fountain or proruption of the River *Dan*.

The Reason why these *Rivers* hide themselves under the *Earth*, and again emerge, are 1. The obstacle of a more elevated place, than the Channel of the River. 2. Either perchance some cavity existing in the *Earth*, or some inconstant matter, which easily giveth place to the gliding River.

There are also other *Rivers*, which hide themselves under the *Earth*; but do not again emerge, as we shall shew in the following *Propositions*.

Proposition VII.

Most of the great and indifferent Rivers, as also a great part of the lesser, do exonerate themselves into the Sea, or a Lake; and the place where this exoneration is made, is termed the Mouth of the River. Some Rivers have one, some three, and some more such Mouths. Some of the Rivers of indifferent magnitude, as also the lesser sort, discharge themselves into greater Rivers: the others either stagnate, or are sucked up by the Earth.

Most Rivers, both great and small, lose themselves in the Sea, or in Lakes.

Concerning the greater *Rivers*, the thing is evident by the Example of the *Rhine*, the *Danube*, the *Wolga*, and such like: For the *Danube* is exonerated into the *Euxine Sea* by *seven Mouths*; the *Wolga* hath at least *seventy Outlets* or *Mouths*; the *Nile* hath *seven*, and where it overflowth, more.

The cause why greater *Rivers* do exonerate themselves into the *Sea*, is their abundance of *water* and vehement course. Now why they have more outlets than one, there is a twofold reason for the same; 1. The abundance of *waters*. 2. The generation of *Sands* and ridges in the *mouths*, which in progress of time was so augmented, that they become either part of the *Land* or *Island*, and so cause, that the River gliding is divided into two branches. And when many such ridges are generated, the *River* is divided into many *branches*, or one *mouth* into many; but then for the most part the *mouths* are carried forwards, and the *shore* receedeth from the *Land*.

Courses of water often made by the Industry of Men.

The *Ancients* testifie, that the *Nile* in times past let it self into the *Sea* by one *mouth*, which was termed *Canobus*. Unto these two former causes a third may be added, *viz. Human Industry*, for men oftentimes from some *Rivers* derive courses of *water*, and prepare a passage or *Channel* for them into the *Sea*, partly to water their *Fields*, and partly for the convenience of *Navigation*; which *Aqueduct* in progress of time, by the violence of the *water*, becomes greater. Therefore the *Ancients* write, and that not without

out probability, that all the mouths of the *Nile*, except *Canobus*, were made by men. But of this we shall treat more fully in the following *Proposition*; where also shall be declared, how it cometh to pass, that one River floweth into the *Channel* of another.

Wolchda in *Moscovia* (not *Wolga*,) ariseth from a *Lake*, and exonerateth it self into another *Lake*.

Rivers, and *Riverets*, which neither exonerate themselves into the *Sea*, or into other *Rivers*, are either *Arms* or *Branches* of other Rivers, or else peculiar Rivers. Those which are *branches* of other Rivers very probably do stagnate, and go not under the *Earth*. Now the cause why they tend not towards the *Sea* is twofold; 1. Because the Channel is not so deep, and therefore they have not much water. 2. The more hard *Earth* hindereth the progress. 3. Many of them are made to water the *Fields*, and for the more easie use of *water*. 4. The Mouth is obstructed, the *Sea* departing, and the *Land* augmenting or promoting towards the *Sea*, or the *banks* or *ridges* generated in the *Channel*, are so augmented, that they admit of no *water*, but repel it; so that branch of the *Rhine*, which formerly discharged it self into the *Belgick* Ocean near the Village of the *Catti*, now stagnates in the midway, between *Leyden* and that *Village*.

But those peculiar *Rivers*, which neither exonerate themselves into the *Sea*, nor into other *Rivers*; but rising in the *Earth*, seem to be absorbed by the *Earth*; these *Rivers* are very small, also few; as also those that flow from the Mountainous places of *Peru*, *India*, and *Africa*, are swallowed up either within the *Sandy soil*, or are absconded in the *Earth*. So at *Meten*, a Village in *Arabia*, near the Gulph, is found a River with a glorious Channel. Under these *Reeds*, in the Summer season, the streams hide themselves with such a silent course, that there appeareth nothing of humidity on the top; but if that no way be admitted to these *Riverets* under the *Earth*, they make *Marishes* and small *Lakes*. Notwithstanding some run with so slow a stream; that almost so much is separated by exhalations, as they receive by the Stream, and so are stayed on the *Earth*, and neither make *Lakes*, nor are absorbed; as the *Riverets Conitra*, *Salle*, *Maresa*, *Jeleesa*, and others in *Moscovia*.

Proposition VIII.

Whether the passage or Channel, through which the Rivers run, be made by the Industry of men, or by Nature?

Of the Channels of Rivers.

It is probable, that the *Channels* of those *Rivers* which were not generated with the *Earth*, were made by hands, on those very accounts: 1. Because that Experience testifieth, that when new *Fountains* do flow, the water so flowing out maketh not a certain *Channel* to it self, but doth dilate it self through the adjacent *Land*. And therefore, if that it must flow, there is need of the help of *man* to hollow a *Channel*. 2. It is manifest, that men have made many *Channels*: So the *Chineses* made a Channel, by which *water* runeth from the *yellow River* into another *River*. 3. Because *Lakes* and *Marishes* do confirm the same; such as are found about the *Fountains* of many *Rivers* that are on a plain; such as are those *Lakes* or *Marishes*, from which the *Nile*, *Tanais*, *Wolga*, and others do flow. Which *Lakes* we doubt not, but to be generated and conserved from the effusion of *water*, made round about by the *Fountain*; and therefore men made a certain *Channel* to defend their Fields from such a *water*, into which *Channel* the *water* might fall and drain the *Lands*. The same must be understood of *Rivers*, whose *Springs* are on the *Mountains*.

Of affinity to this *Proposition* is this other, *viz.* Whether that *Rivers*, which exonerate themselves into others, or meet together, made that passage by their motion; or whether they were brought into them by men which made a *Channel*? The latter seemeth more probable, for the reasons before alledged.

alledged. The same must be observed concerning the branches of Rivers and Circumductions, by which Islands are made in the *Tanais*, *Wolga*, &c. So one Arm of the *Euphrates* formerly passing through the *Chaldean* Marishes, was let out into the Sea; afterwards it left its course, many *Aqueducts* and *Channels* being made by the *Natives* to water their grounds; neither doth it arrive to the *Sea*, its *mouth* being obstructed, and its *water* is partly taken up in the *Aqueducts* that are made, and partly averted into the other *Arm*, which exonerateth it self into the *Tigris*. And so it seemeth to be the case of other *Rivers*, which we now see do not go forwards into the *Sea*, but to *stagnate*. It is probable, that in times past they did exonerate themselves into the *Sea*.

Of Isles made in Rivers.

Proposition IX.

Why no salt Rivers are found, seeing that Salt-springs are found in many places.

The reason is, because that men have no need of *Salt-water*, and therefore make no *Channel*, by which the *water* of the *salt Fountain* may flow, by reason that they can have *Salt* at an easier rate: But if that a fit *Channel* were prepared from those *salt Springs*, we should have *salt Rivers*; such as are in *Lunenburgh* and other places, under the *Earth*. Neither do we question, but that many Rivers of *Salt-water* do flow from their *Fountains* under the *Earth*.

The reason, why no Salt Rivers are found.

Proposition X.

The Channels of Rivers, by how much they are the more near their Fountains, by so much they are the more high; and by how much they are the more near the Mouths of Rivers, and the Sea, by so much (for the most part) they are the more depressed.

But in some *Channels* some parts more removed from the *Spring*, are higher than that part more near to the *Fountain*; either by reason of the *Hills* and *Valleys*, as I may so say, in their *Channels*, or by reason of their *Whirlpools*: yet no part of the *Channel* is higher than the *Fountain*.

Furthermore, of Channels of Rivers.

The cause or reason of the Proposition is manifest, because that *water* floweth not but from a place more high to a place more low, and so every part of the *Channel* (especially the mouth of the River) is lower than the *Spring*: for otherwise it would flow back again to the *Fountain*. Now that the elevation of the *Channel* doth decrease even to the mouth of the River, that at least is true concerning many parts of the *Channel*; for because here and there are found *Whirlpools* in a River, places more depressed; and on the contrary, *ridges* and little *hills*; thence it cometh to pass, that one part of the *Channel*, although more removed from the *Springs*, is higher than the other part of the *Channel* which is more nigh the *Fountain*; and yet notwithstanding the *water* floweth from this to that, because that quantity of water floweth into the places depressed, that the *superficies* of it becometh higher than the little *hillocks* or *ridges*, or the vicine patts, which being more elevated, lie towards the mouth. And there is scarce any River to be found, whose *Channel* hath not these inequalities; especially in the *Nile* and *Wolga* these *ridges* do abound.

The flowing of water.

And where the water falleth from a higher place to a more depressed part of the *Channel*; if the depression be great, the place is termed the *Cataract* of the River, where the River runeth downwards with a great violence. Such *Cataracts* great Rivers have, especially the *Nile*.

A Cataract, what.

For the *Nile* in two places of his *Channel* falleth down between the *Mountains* with that noiſe and rapidneſs, that the Inhabitants are reported to be deafned by the ſame. *Wolgda* alſo, a ſmall River in *Moſcovia* (not *Wolga*) hath two *Cataracts* near *Ladoga*.

So the *Zaire*, a River in *Congo*, ſix *miles* from the ſhoar, hath a *Cataract*, where it falleth from a *Mountain:* alſo the *Rhine* at *Beleſilda* and *Scaffuſia*, falleth with a great noiſe. But *Drainers* have obſerved, that if the bottom of the *Channel* be depreſſed one paſs in 200 *paces*, it will hardly be navigable by reaſon of its celerity. Seeing therefore that all great Rivers are Navigable, we infer, That the depreſſion of the *Channel* is no greater than one *paſs* or *mile* in 200: but particular *Cataracts* and *Whirlpools* are excepted. Now this depreſſion of one part of the *Channel* beneath the other part is termed *Libramentum*; and the depreſſion of the mouths of the River beneath the place of the Fountain is termed, the *Libramentum* of the River.

Propoſition XI.

Why Rivers have, or acquire a greater Latitude in one part of them, than in the other.

Of the Latitude of Rivers.

The cauſes are fourfold; 1. If that the *bank* or *ſhoar* be more low in this part, than in that. 2. If that the *Earth* of the *ſhoar* be leſs hard and coherent, as not being ſufficient to reſiſt the violent acceſs of the River, which ſometimes proceedeth from the *winds*, or plenty of *water*. 3. If that the *Channel* on that part be leſs profound, or hallowed, or have ridges: And 4. If that it flow from any *Cataract* into that part.

Propoſition XII.

The Channels of Rivers become more or leſs depreſſed, ſometimes in this, and ſometimes in that part.

They become leſs depreſſed, or elevated, and not ſo hollow; 1. If that *Ridges* be generated. 2. If that the River become more broad on that part. 3. If that the flux become leſs ſwift.

The depreſſion or cavity of the *Channel* is augmented, if that the *flux* of the River be more vehement and ſwift, eſpecially from ſome *Cataract*, or between the narrowneſſes of the *ſhoars*; more eſpecially, if that the whole bottom conſiſt of *earth* leſs coherent.

Propoſition XIII.

Why ſome Rivers run with a more ſwift current, and others with a more ſlow. And why one and the ſame River is carried with a ſwift current in one place, and with a ſlow in another, which is obſerved of the Rhine *in many places.*

Of the motion of Rivers.

The cauſes are, 1. The *Altitude* of the *Spring*. 2. The depreſſion in the parts of the *Channel*, or *bottom* (eſpecially in the mouth,) for if that the bottom be depreſſed one *mile* in two hundred; *Drainers* have obſerved, that the *water* is ſo ſwiftly moved, that there is great danger in *ſailing*: For where there are *Cataracts*, there the Rivers ruſh with a mighty violence; and therefore *Torrents* are carried ſo furiouſly, becauſe that they flow from *Mountains*. 3. The ſtreightneſs of the *Channel*, and profundity joyned with an abundant quantity of *water*; as when Rivers paſs between two Mountains or procurrent Lands.

Rivers

Rivers famous for their ſwift courſe, are the *Tigris*, *Indus*, *Danube*, *Tyrtis*, *Malmiſtra*, that floweth with ſo great a noiſe, that it may be heard a great diſtance off.

Propoſition XIV.

The mouths of *Rivers* may be by ſo much the more eaſily obſtructed, by how much they are the more broad, and by how much they are the deeper, or leſs depreſſed, and by how much there is leſs quantity of *water*, and the *flux* is leſs ſwift and vehement. For theſe cauſes make the River to be carried with a leſſer violence, neither doth it thruſt forth the *Terreſtrial matter*, which is collected in its *mouths*, but rather ſuffereth it to ſink.

Propoſition XV.

Very few Rivers are carried in a direct courſe from the Spring to the Outlet, many ſeek divers quarters in their flux, and ſome flow with many windings.

The courſe of Rivers from the Spring.

The cauſe ſeemeth partly to be the induſtry of *men*, partly the *motion* of the *water*, partly the interpoſition of a ridge or bank in its direct courſe.

Winding *Rivers* are, 1. *Rio de Orellana* in *Brazilia*, making innumerable windings, ſo that its *Paſſage* or *Channel* is reckoned to be above 1500 *miles*; when in a direct line from the *ſpring* of it to the mouth are only 700 *miles*.

2. The River *De Madres* in *Anatolia*, which hath 600 *windings*.

3. The River *Tobra* ariſing in *Siberica*, floweth with ſo many curvatures, or windings; and the *Ruſſians* and *Siberians*, when they ſail in it, carry the *Boat* or ſmall *Veſſel* and its lading by *land* from one winding to another, to avoid greater expence.

Propoſition XVI.

Whether the Lakes, through which ſome Rivers do ſeem to paſs, (or to enter into, and to go out from) be cauſed by Rivers? or whether they have their peculiar Springs, and augment the water of Rivers? alſo whether that a River flowing from a Lake be the ſame with that which floweth in?

Of the cauſe of Lakes.

All *Rivers* have not ſuch *Lakes*, but ſome only. *Nubia*, a River of *Africa*, hath five; the River *Niger* four; *Rhodanus*, the Lake *Lemanus*, &c.

Concerning thoſe *Lakes* we have ſpoken in the preceding *Chapter*, *viz.* that a *River* going forth muſt be compared with that which entereth in: if that which goeth forth be greater than that which entereth in, there will be peculiar *Springs* in the bottom of the *Lake*, which cauſeth that *River:* but if that a leſſer, or at leaſt no greater, goeth forth, this *Lake* is made and conſerved by the *River* entering in, and the cauſe or original of its generation was the latitude and cavity, or depreſſion of the *Channel*; and a *Lake* may be made from any *River*, as we have ſaid in the preceding Chapter.

Although the *River* going forth be ſituated almoſt in a direct *line* with the *River* entering in, yet thoſe two *Rivers* ſhall be accounted one *River*, or the parts of one *River*, *viz.* when that which goeth forth is greater than that which entereth in: for if it be leſſer, or no greater, I think we ought not to queſtion, whether that which goeth forth be the ſame with that which cometh in.

Other

Other *Notes* or *Signs* are in some, as the *Rhodanus* entereth the Lake *Lemanus*, and again goeth forth, and yet causeth not that Lake; which is discovered, besides other *tokens*, from the *colour*, which this *River* beareth contrary to the *Lake*; neither doth the *Rhine* cause any *Lake*, but is produced and conserved from *waters* bubling under the *earth*; yet I do not propose these as undoubted.

Proposition XVII.

Most Rivers are by so much the broader, by how much they are near to their mouth, or removed from their Spring, and great in their Latitude in their Mouths or Outlets.

The Mouths of Rivers broader than at their Springs.

The cause is, 1. Because other Rivers enter into that which exonerateth it self into the *Sea*, and so the quantity of *water* is augmented. 2. Because the *Channel* is less depressed in the parts nearer the *mouth*. 3. Because that the *water* is forced back by the wind blowing from the *Sea* from the *mouth* to the *Fountain*, which violence is only discovered in the parts near to the *mouth*, not in those remote and near the *Fountain*. 4. The *Sea* it self, when such a wind bloweth, entereth the mouth, and rendereth it more large and broad by vehement agitation.

And by so much the *outlets* are larger and broader in great *Rivers*, by how much they are the fewer. Great are the *mouths* or *outlets* of the River *Maragnon* in *Brazilia*; of St. *Laurence* in *Canada*; of the *Zaire* in *Africa*; of *Rio de la Plate* in *Brazilia*: for this *River* is carried into the *Sea* by an *outlet* of 40 *miles*, as some have observed; or as others, of 20 *miles* only. And I suppose those that write of 40 *miles*, comprehend the other *mouths* of the *River* together. Those who have been in *Congo*, relate that the *mouth* of the *Zaire* is 28 *miles*: and these *Rivers* sending forth such a large quantity of water, overcome and obscure both the salt taste of the *water*, and the *motion* of the *Sea* towards the shoar, and that unto 10 or 12 *miles* in the *Sea*.

Proposition XVIII.

The water of Rivers carrieth with it many particles of various Metals, Minerals, Sands, of oyly or fat Bodies.

Rivers in their course carry various things with them.

Some *Rivers* carry *gold*, that is *sands* mixed with some grains of *gold*, and such are 1. some in *Japan*; 2. In the *Islands* of *Lequeo* not far from *Japan*; 3. A Riveret called *Arroe* in *Africa*, which springeth in *Monomotapa* from the foot of the *Mountains* of the *Moon*, in which *Mountains* there are *golden Mines*; and it floweth into *Magnice*, a River in *Soffalæ*. 4. In *Guiney*, where the *Negroes* separate these *grains* from the *sand*, and sell it, or exchange it with the *Europeans* for Toyes or slight Commodities. 5. In the Riverets about *Mexico*, grains of *gold* are also gathered up, especially after showers of Rain. Which must be understood of all these Riverets: For except in the times of showers, scarcely any, or very little, is found. 6. In *Peru*. 7. In *Sumatra*. 8. In *Cuba*. 9. In *Hispaniola* and other adjacent *Isles*. 10. In *Guiana* a Province in *America*. 11. In the Rivers of *Caribana* great *grains* are found after showers. 12. Many *Riverets* and *Springs* are found in the Regions about the *Alpes* in *Germany*, especially in the Province of *Tirol*, from the *water* of which *gold* and *silver* is extracted, although nothing of *grains* be conspicuous in them, because they carry very small *Particles* or *Atomes*. The *Rhine* also carrieth *golden clay* in many places, as also the *Abbis*. In times past the River *Tagus* was famous for rowling down *Sand-gold*; but at this day no such are found in it: neither do I remember that any *River* in *Europe* is celebrated for such riches. Also in *Hassia* at this time a small *River* is reported to be found, in the *sands* of which were *grains* of *gold*; but I have read no Author worthy of credit concerning it.

No

No *Silver Rivers* or *Riverets* are taken notice of by Writers, yet I doubt not, but that there as many, or more *Riverets*, which carry *grains* of *gold*; but because they are not so easily discovered from the *sand*, and no great gain can be obtained, therefore it hath not yet been observed by any. The same is also the cause why we meet with no mention of those *Riverets* that carry *grains* of *Iron*, *Copper*, *Tin*, except of very few, of which questionless there are a great number, the admirable effects of which being discovered, men admire and are amazed, and vulgar *Philosophers* fly to an occult quality. Let us only cast an eye on that River in upper *Germany*, which changeth *Iron* into *Copper*, as the Vulgar think; so that if you hang an *Iron* shoe in it, you will draw it out *Copper*. But the *Iron* is not changed into *Copper*, as is vulgarly supposed; but the *grains* and *particles* of *Copper* and *Vitriol* that are in this River, corrode the *Iron* by the assistance of the motion of the *water*, and the particles of the *Iron* being removed, those of the *Copper* succeed in their places. This the Modern *Physicians*, that are skilful in *Chymistry*, have learned by another experiment. A strange River in *Germany*.

Much less are the Riverets that are impregnated with many particles of kinds of *earth and salts* observed: But we shall explain in the following Chapter the *Mineral* and *Metallick Springs*.

From this admixture of various particles proceedeth the great diversity of *waters* in *Rivers* and *Wells*. The *water* of some, if that you use it to boyl *Meat*, maketh it black, (which is a sign that it is impregnated with *Iron*;) neither are *Pease* so easily softned, as when they are boyled in other *water* which is somewhat more fat. Of divers *waters* the same or like *Beer* cannot be made. Now the *Albis* is of the number of these fat ones, as I may so say. The cause of this variety is to be sought from the variety of the *Lands*, through which the River runeth, which are either *stony*, *gravelly*, or *metallick*. And experience testifieth, that Rivers, whose *water* is fat, do run through *clayie Lands*, so all the places that adjoyn to the *Albis* are fruitful.

Proposition XIX.

The waters of most Rivers differ in colour, gravity, and other qualities.

The waters of most Rivers are of different qualities

For some *waters* are *black*, some inclining to *black*, some inclining to *red*, some to *white*.

And this diversity of them is chiefly noted, when that two Rivers do meet; for we may discover for many *miles* those *waters* where now they exist in the same part of the *Channel*: From whence also 'tis manifest, that they differ in gravity, when that one rather sinketh to the bottom of the *Channel*, than the other; although this is made more manifest by the examination by weight.

The *water* of the *Ganges* is accounted the most wholsome, and the most light; and the great *Mogul*, in whatsoever place he is, causeth this *water* to be brought him, of which he only drinketh. Some will have the *water* of the *Nile* to be the most fruitful, and the most wholsome. Most heavy *waters* are impregnated with *Iron* or *Mercury*.

In great Rivers we must have respect to the Riverets, of which they are compounded: For the *Rhine* receiveth many Mineral Riverets; so also doth the *Danube* of *Gold*, *Iron*, and *Vitriol*: and hence have they their quality, although many *Fountains* have little of them.

Proposition

Proposition XX.

Some Rivers every year at a set time are so augmented, that they overflow their Channel, and inundate the adjacent Lands.

Of the increase and overflowing of Rivers.

The most famous of those is the *Nile*, that so encreaseth, that it overspreadeth all *Egypt*, except the *Hills*. In *Congo*, *Angola*, *Monomotapa*, *Soffala*, *Mosambique*, from those it is known that the *Fountains* of the *Nile* are the great Lake *Zaire*, (or in the Lake *Zaire*) which is situate in the procurrent of *Africa*, in a middle place between the Eastern and Western shoar, under the tenth *degree* from the *Equator* towards the South, as we have said in the former Chapter.

River *Nile*.

Near unto this Lake are many ridges of *Mountains*, which are called the *Mountains of the Moon*; so that the Lake lieth, as in a Valley, between *Mountains*. Now because that these places lye from the *Equator* towards the South, therefore the reason of the Sphary motion requireth that they should have *Winter* when that we have *Summer*: but by reason of their small distance from the *Equator*, they feel no cold; but instead of *Snow* they have almost continual *Rains* two hours before and after Noon in the Kingdom of *Congo*; the *Clouds* hardly permitting the sight of the *Sun*: with the same *Clouds* the tops of the *Mountains* appear as covered; and in these Mountainous places *rains* and *showers* are almost continually, which run down like Torrents, and all flow together into the Lake *Zaire*, and from thence into the *Channel* of the *Nile*, *Zaire*, *Cuama*, and others that arise from the same Lake, but yet do not abound with so great a quantity (yet the *Zaire* doth overflow every year) as the *Nile*, because the *Channel* of them is more deep; and after a short Tract they exonerate themselves into the Sea: yet all of them encrease at the same time, and disgorge themselves of a great quantity of *water* into the *Sea*.

River *Niger*.

The second River among those that overflow the adjacent *Lands* at a certain time, is the *Niger*, of no less Tract than the *Nile*, though not so famous. It overfloweth at the same time that the *Nile* doth.

River *Zaire*.

The third River of the overflowing Rivers is the *Zaire*, a River in *Congo*, of which we have spoken. Add to this the lesser Rivers of *Congo*.

Rio de la Plate.

The fourth is *Rio de la Plate*, a River in *Brasil*, which overfloweth the adjacent *Fields* at the same time with the *Nile*, as *Mafeus* writeth.

Rivers *Ganges* and *Indus*.

The fifth of the overflowing Rivers is the *Ganges*.

The sixth is the River *Indus*; these two Rivers in the *Pluvial months* of those *Regions*, pour themselves forth upon the *Lands* without their *Channels*, where then the *Natives* do gather the *water* into standing *Pools*, that in the other *months* of the *year*, when there is almost no *Rain*, they may thence fetch *water*, and this inundation causeth great fertility in the *Fields*.

The seventh comprehendeth many, *viz.* four or five, which flow from the Lake *Chiama* in a moderate *Channel*, and exonerate themselves into the *Gulph* of *Bengala*, passing through the Kingdoms of *Peru*, *Siam*, and others. That which passeth through the Country of *Siam* is called *Meman*. And at the time of the inundation, the *Fields* and *Streets* of the *Cities* are covered with *water*, so that they are forced to make use of *Boats* to sail from one house to another. And this inundation also causeth exceeding fertility.

River *Maeon*.

The eighth is *Maeon*, a River in *Cambaja*, which overflows in the *Summer months*.

River *Payana*.

The ninth is the River *Payana*, which overfloweth after the same manner as the *Nile* doth.

The tenth in *Choromandel* a part of *India*, the Rivers overflow by reason of the plenty of *waters* that flow from the top of the Mountain *Gatu* in the *Pluvial months*.

The

The Eleventh is the *Euphrates*, which at set-times of the year overfloweth *Mesopotamia*. River *Euphrates*.

The Twelfth of these overflowing Rivers is *Sus*, a River in *Numidia*, which overfloweth in the *Winter*. River *Sus*.

I have not read of any other *Rivers*, that I can remember, that do overflow in an Anniversary time of the *year*, although some may do it in most years; to wit, the River *Obius*, and *Flavius* a River of *China*.

There are many *Rivers* that overflow without any order, or in a set-time, yea there is scarcely any River of noted magnitude which overfloweth not its *Banks* sometimes: So it is evident concerning the *Albis*, the *Rhine*, and the like. And but that the capacity of the *Channel*, and the height of the Banks obstructed, all great Rivers (in an Anniversary time) would inundate, because that most of them are much augmented in the *Spring season*. And it may so happen, that a River that did use to overflow, may begin to do it in an Anniversary time, *viz.* if that any part of it, by reason of *ridges* or *sands*, or any other way, become higher, and the *Coasts* or *shoars* become more high: but then men are accustomed to raise Banks.

The only cause of these *Inundations*, is the abundancy of *Water*, which in some Examples alledged, may proceed peradventure from dissolved *Snow*; but in most, from frequent Rains. Yet that is a wonder, that the *Indus* and *Ganges* should overflow in other *Months*, than the adjacent Rivers, from the Lake *Chiama*; but the cause of this diversity, which is observed here in this *Season*, must partly be taken from the *Anniversary rains* in the adjacent places, partly from the *Mountains* and *Rains* about the places of the *Fountains*. But we, to avoid prolixity, shall supersede to discuss every Example. The River *Bibara* in *France*, near to *Paris*, sometimes without any *Rains*, or at least with those that are usual, so swelleth, that it causeth desolation unto the *Suburbs* of St. *Marcellus*. Now the reason why almost all these *Inundations* make the *Lands* fruitful, is, because that *water* that inundateth is either *Rain* or *Snow-water*; which *waters*, both by reason of their *Spirituous levity*, and also, because of their *Sulphureous substance*, which they have admixt in the *Air*. Above all other, *Minerals* are very prevalent to fructifie, and are also wholsom. Now that there is such a *Spirit* and *Sulphur* in *Rain-water*, is proved,

1. From the *Worms* that are generated in it.
2. From its easie *putrefaction*.
3. From the very *Chymical distillation*.

Yet some *Rivers* by their *Inundation*, do not make the *Earth* fertile, but rather cause sterility; as *Ligeris* in *France*; when that *Sequana* maketh them fruitful by its *fat water*.

Proposition XXI.

To explain, how Springs or Fountains break forth.

Of the breaking forth of Springs and Fountains.

In the fourth *Proposition* we have shewed, whence the *water* ariseth that floweth from *Fountains*. Now here we demand, by what force that *water* collected in the *Earth* is thrust forth, seeing that it seemeth not possible to be done without a violent removing of the *Earth*: But the causes are various, which make way for a *Spring* in any place. 1. If that in any place there be a certain cavity; the *water* distilleth into that without the help of any other cause, when that by creeping it cometh into it, and then in course of time, maketh greater passages for it self, until that cavity being filled, it floweth out and maketh a River. The same also happeth without a cavity, if that the *Spring* be on the top of a *Mountain*. Also for this reason

frequent Springs are found in *Woods* and ſhady places: For the *Rain-water* moiſtneth the *Earth*; and becauſe it is not extracted by the heat of the *Sun*, and an open and free *Air*, by degrees it alſureth to it ſelf the hidden water of a future *Fountain*. 2. A way is prepared, and the *Earth* removed by the *Spirits*, which are admixed with the *waters*, yet in the *Earth*; alſo the raresaction of *water* in the *Earth*, by which it requireth the larger place: For the *Waters*, whilſt that yet they are hidden within the *Earth*, carry many *Spirits*. Alſo *Subterranean fires* add not a little to this. 3. Oftentimes *Fountains* are brought to light by *ſhowers*, for *ſhowers* do render the Pores of the Earth more ample and large, when that they conjoyn with the *water* of the hidden *Fountain*; and ſo this followeth that, by reaſon of the mutual conjunction and coherency. 4. Sometimes *Springs* are opened by an *Earthquake*: So an *Earthquake* ſent forth the River *Ladon*. 5. Sometimes they are diſcovered by the Induſtry of Men, by digging the *Earth*. 6. Many *Fountains* have been diſcovered by *Animals*, which are wont to dig up the *Earth* with their Snouts: ſo a *Hog* firſt diſcovered the firſt Salt Spring in *Lunenburgh*; for when he had rooted up the *Earth* and made a gutter, the *water* ſpouted out, which filling the gutter, the *Hog* (according to their cuſtome) lay down in it; then when he aroſe, and that his back was dry, ſome diſcovered a very white colour on him, which when they had more accurately contemplated, they found it to be *white Salt*: then they went to the Spring, and from thence forwards many more were ſought and found out; from which the *City* obtaineth almoſt all its *riches* and *ſplendor*: And in Memorial thereof the *Hog* was quartered and ſmoak-dried, and is kept at this very day in the Palace of *Lunenburgh* to be ſeen.

Propoſition XXII.

A place being given in the Earth, to enquire, whether a Spring or Well may be made in it.

See *Vitruvius*, Lib. 8. Cap. 1.

See *Vitruvius* in the Eighth Book of his *Architecture*, Chap. 1. At this day we perform the ſame by digging up the *Earth* oftentimes to a great depth; and for the moſt part *veins* or *heads* of *Springs* or *Wells*, or the *Wells* and *Springs* themſelves are found.

Propoſition XXIII.

A place being given, to make a Spring or Well in it, if that it be poſſible to be made.

See *Vitruvius*, Cap. 7.

We will alledge the words of *Vitruvius*, as being a man excellently skilled in theſe affairs, ſeeing that we never uſed our ſelves to this kind of Exerciſe. In his *Seventh Chapter* thus he ſpeaketh, "Reaſon muſt not be contemned "in digging of *Wells*, but the natural *reaſons* of things are to be conſidered "with ſharpneſs of wit and great prudence, by reaſon that the *Earth* hath many "and various things within it; for it is compounded, as other things, of *four* "*Principles*, and the firſt is *Terrene*, and hath from the humidity of the "water *Fountains*; alſo heats, whence proceed *Sulphur*, *Alom*, *Bitumen*, and "groſs Spirits of *Air*, which being thick, when by the fiſtulous interveniings "of the *Earth* they come to the place where the *Well* is dug, and find men "digging, by their natural vapour they ſtop up the Animal *ſpirits* of thoſe "that work, at their Noſtrils: ſo that thoſe that fly not quickly away, are "there choaked. Now to avoid this, we muſt thus act; Let a *Candle* be "lighted and let down, and if that it continueth burning, you may deſcend "without danger; but if that the light be extinguiſhed by the force of the "*Vapors*; then let *Æſtuaries* be dug on the right and left hand near the *Well*, "ſo as by the *Noſtrils* the *Spirits* will be diſſipated. When thoſe are ſo expli-"cated, and that you are come to the *water*, let the ſtructure be ſo fenced, that "the

"the *veins* be not ſtopped: But if that the places ſhould prove hard, or "that the *veins* ſhall not be altogether at the bottom, then aſſiſtance muſt "be taken from the coverings of *Plaſter-works*. Now this muſt be ob-"ſerved in *Plaſter-work*, that the rougheſt and pureſt *Sand* be gotten, that "the *Cement* be broken with a *Flint*, that the moſt vehement *Chalk* be mixed "with the Mortar; ſo that five parts of *Sand* anſwer to two of *Chalk* or "*Lime*: Let the *Cement* be added to the *Mortar*; of it, let the *Walls* in the de-"preſſed trench, unto the *meaſure* of the future *altitude* be ſpaged, the Bars "being made of *Iron*. The *Walls* being *plaiſtered*, let that which is *Earthy* "in the midſt, be evacuated to the lower *meaſure* or libration of the *Walls*; "and the *bottom* being levelled, let the *Pavement* be *plaiſtered* with the ſame "*Mortar*, unto the thickneſs that is appointed. Now theſe places, if they "ſhall be made double, or treble, that they may be tranſmutated by the per-"colations of the *water*, will make the uſe of it far more wholſom; for the "Mud, when that it hath found a place to ſink in, the *water* becometh more "clear, and will keep its taſt without any ſcent; if not, you muſt of neceſſity "add *Salt*, and extenuate it.

Propoſition XXIV.

To prove, whether the Water of a Spring be wholſom.

Of Spring-water, whether it be wholſom, or not.

Concerning this, *Vitruvius* thus writeth; "Their probations muſt be thus "looked after: If that they flow and be open before that they begin to be "drawn, look on them and obſerve of what membrature they are; what "*Inhabitants* dwell about thoſe *Fountains*, whether they be of ſtrong Bodies, "of good colours, not lame, blear or ſore-eyed; if ſo, the *Waters* are very "excellent. Alſo, if that a new *Spring* be dug, and the *water* be put into a "*Corinthian Veſſel*, or any other kind made of *Braſs*; and if it cauſeth no "ſtain, it is then moſt excellent *water*. Alſo, if that that *water* be heated, "and afterwards ſetled and poured forth, and that no Sand or Mud be found in "the bottom, that *Water* is alſo very good. Alſo, if that *Roots* put in that "*water* be quickly boiled, they ſhew the *water* to be good and wholſom. Alſo "that the *water* in the *Fountain* be clear and pellucid, if that no *Moſs* or "*Reeds* grow about it: Or if that the place be not defiled with any filth, but "a pure ſhew. Theſe ſigns ſhew it to be tenuous and very wholſom.

Propoſition XXV.

A place being given, to make an apparent Fountain in it, if that it be poſſible.

That is termed an apparent *Spring*, as we have ſhewed in the *th Propoſition*, where the *water* ſpouteth out, being ſent from a more high place through a Subterraneous paſſage. Now ſuch a *Spring* may be made, if that any *Lake*, *River*, or *Fountain* be in the adjacent Land, *viz.* a *Pipe* or *Channel* muſt be made under the *Earth*, from the given place to the adjacent *Lake* or *River*, through which the *water* may flow to the given place, as we ſhall ſhew in the following *Propoſition*.

See Propoſition V.

Propoſition XXVI.

To bring a River, from a given Fountain or River, to the place given.

If that the *Fountain* or *River* given be higher than the place given, the work will be eaſy: Now this is found out by *Geodetical* or *Surveying Inſtruments*; and the operation it ſelf is termed or ſaid to waſh the places, for the *leading* of the *water*; and the difference between the *Altitude* of the *Fountain* and the place given, is termed the *Libramentum* of the River to be *lead*. Therefore a *Channel*

must be dug from the *Fountain* or *River* unto the place given, the *Libra-ment* of which must be greater or leſſer, as we will have the River to be ſwifter or ſlower: For the Problem is undeterminated for the moſt part in *Aqueducts*, that the celerity of the *flux* may be moderate. It is thus obſerved, that in the *Longitude* of a *Channel* of two hundred foot, the depreſſion is no leſs than half a foot, (for otherwiſe the *water* will not flow, or elſe it will overflow: *Vitruvius* in one hundred *foot* requireth no leſs depreſſion than half a *foot*,) neither ought it to be greater than an whole foot, or at moſt a foot and a half (otherwiſe it will flow with an over violent and quick courſe.) But if that the *Fountain* be not higher in the given place, there will be need of *Inſtruments*; concerning which you muſt conſult *Mechanicks*, as alſo concerning many other things, which are to be conſidered in this Affair. By this Problem alſo is made a conjunction of two *Rivers*, when that a *Channel* is drawn from one River into another, that a *Navigation* may be made from one into another; as from *Duina* into the next River; from *Tanais* into *Wolga*; from the River *Flamus*, in *China*, into *Nanchina*.

Propoſition XXVII.

Some Rivers are noted and famous for long Tracts, ſome for Latitude, ſome for quickneſs of Courſe, ſome for the peculiar properties of the Waters that they carry; ſome for one or two of theſe cauſes.

Rivers are noted for ſeveral occaſions.

The truth of the *Propoſition* needeth no probation. I will only reckon up here thoſe *Rivers* which are the biggeſt of all, *viz.* thoſe of a long tract, which alſo are famous for *Latitude*: ſuch only are ſixteen in the whole *Earth*, as yet known, *viz.* the *Nile*, *Ob*, *Jeniſcea*, *Orellana*, *Rio del Plata*, *Parana*, *Maragnon*, *Omarranna*, *Ganges*, *Danube*, *Canada* or *St. Laurence*, *Niger*, *Nubia*, *Wolga*, *Janſu*, and *Flavus*.

After thoſe, theſe following are famous for the breadth of their *Channel*, but not for the length of their Courſe, and which are about *twenty* in number, *viz.* the *Indus*, *Zaire*, *Cuama*; the Rivers from the Lake *Chiamay*, *Euphrates*, *Tanais*, *Poizora*, *Peſida*, *Tabat*, *Irtiis*, *Santa Eſprit*, *Amana*, *Magdalen*, *Julian*, *St. Jaques*, *Rhene*, *Albis*, *Moſa*, *Boryſthenes*, and *Totouteack*.

We ſhall only here contemplate the courſes of the *ten* greater *Rivers*, leaving the more accurate explication of them, and the other Rivers, to *Special Geography*.

The River *Nilt*.

1. *Nilus*, *Niger*, *Ganges*, run almoſt a ſtrait courſe; the reſt have many, and thoſe vaſt Curvatures. The Spring of the *Nile* is placed in the Lake *Zaire* in the *South latitude* of 10 *degrees*; its mouth *Canobus* is in the *North latitude* of 31 *degrees*; it floweth from the South to the North: in ſome places it ſendeth forth it ſelf in a broad ſpace, in other places it is very narrow: it hath two *Cataracts*; its tract or Longitude is about 630 *German miles*, or 2520 *Italian miles*, for which may be ſet down 3000 by reaſon of the windings; it overfloweth every year, as I have elſewhere treated of.

The River *Niger*.

2. *Niger*, a River in *Africa*, whoſe *Fountain* or *Spring* is in the 11*th degree* of *North latitude* from the *Lake*. Some write, that it is derived from the *Nile* by a *Subterranean paſſage*: the ſign of it is, that it overfloweth every year at the ſame time as the *Nile* doth. One of its Mouths is in the ſame *degree* of Latitude in which the Spring is; but it is more removed from the *Æquator* than 15 *degrees* of Latitude; it floweth from the Eaſt to the Weſt. In ſome places it hideth it ſelf under the *Earth*, and again emergeth. Its tract is about 600 *German miles*; but it will be leſſer, if that you wholly neglect its great and noted bendings; and larger, if that all ſhould be reckoned.

3. *Ganges*,

The River *Ganges*.

3. *Ganges* in *Aſia*; its moſt remote *Fountain* is placed in the *North Latitude* of 43 *degrees* in *Tartaria*, but ſome bring it back to 33 *degrees*; its Mouth is in the *Latitude* of 22 *degrees*: it floweth from North to South. Its courſe is about 300 *German* miles: it overfloweth every year.

The River *Ob*.

4. *Ob* alſo in *Aſia*, very great, and every where broad; its Spring is placed in the 48 *degree* of *North latitude* in the *Mountains* of *Tartaria*, near the *Stone-Tower*. Its Mouth is in the 69 *degree* of *Latitude*; its tract is about 400 *German* miles, omitting its windings. It divaricateth it ſelf into two Arms in *Siberia*, or rather ſendeth forth a branch from its ſelf, which having finiſhed a crooked paſſage, returneth into its ſelf and ſo formeth an *Iſland*, in which there is a City built by the *Moſcovites* and *Siberians*, called *Jorgot*.

The River *Jeniſcea*.

5. *Jeniſcea*, another River in *Aſia*, heretofore unknown to *Geographers*, but obſerved by the *Moſcovites*. It is found to be greater than the *Ob*, from which it is diſtant *ten weeks voyage* towards *Tartaria*; at the *Oriental ſhoar* of which a ridge of *Mountains* are extended in a long tract: on the *Occidental ſhoar* inhabit a People called *Tingæſi*. Every year in the *Spring* it overfloweth the ſpace of 70 *miles* towards the *Weſtern lands*, at which time the *Tingæſi* betake themſelves with their *Cattle* and *Houſhold-ſtuff* into the *Mountains*, on the *Eaſtern ſhoar*. Its *Fountain* and *Outlets* are unknown; its tract is ſuppoſed to be no leſſer than that of the *Ob*.

The River *Peſida*.

6. *Peſida*, removed ſome days Journey towards the Eaſt from *Jeniſcea*: its *Oriental ſhoar* is thought to touch on *China*, and the Kingdom of *Cathay*: its *Fountain* and *Outlets* are unknown. It is none of the number of the great *Rivers*; but I have briefly touched on it, becauſe that no *Geographers* have hitherto made mention of it; as alſo of the River *Jeniſcea* and *Irtiis*.

The River *Orellana*.

7. *Orellana*, in *America*, (ſo called from *Francis Orelli*) is accounted amongſt the greateſt *Rivers* of the Earth. Its *Fountain* is in the Kingdom of *Peru*, in the Province of *Quito*, in the *South latitude* of 72 *degrees*, (but this is not altogether certain; its Mouth is *fifteen miles*, in *Latitude* two *degrees* Southerly. Its tract is ſaid to be 1500 *Spaniſh miles*, by reaſon of its great number of *bendings*, when that in truth it extendeth not 700. Others confound with it, or make the River *Maragnon* to be a branch of it. It is in ſome places *four* or *five Leagues* broad; but it receiveth not its *water* ſo much from a *Spring*, as from Rains falling on the *Mountainous* parts of *Peru*; ſo that in the dry *mouths* of thoſe *Mountains* it carrieth little *water*. And indeed the Moderns do much detract from its magnitude.

Rio de la Plata.

8. *Rio de la Plata*, in *Braſilia*; its *Fountain* is in the Mountains of *Peru*: Its Mouth is in the *South latitude* of 37 *degrees*, and that is ſaid to be about *twenty miles*; but when it overfloweth it hath many *Outlets*, which ſome account for one; at that time it carrieth not much *water*. The *Natives* call it *Paramaguaſu*, that is, a water like the *Sea*, as ſome obſerve.

The River *Omaranna*.

9. *Omaranna* alſo, a River in *Braſilia*, flowing from the Mountains of *Peru* in a long tract. Theſe three great Rivers in *Braſilia*, viz. *Orellana*, *Rio de la Plata*, and *Omoranna*, meet ſomewhere in ſome *Lakes* in the *Mediterranean* places of *Braſilia*; and emerge again, being disjoyned.

The River *Canada*.

10. and laſtly, *Canada* or St. *Laurence*, in *America Septentrionalis*: its *Spring* is in the *Lake* called *des Iroquis*. Its large Mouth is in the 50*th degree* of *North latitude*, and its tract is no leſſer than 600 *German miles*.

Propoſition XXVIII.

Whirlpools are found in the Channels of ſome Rivers.

So in the River *Sommona*, between *Amiens* and *Abbeville*, in *Picardy* in *France*, is a ſecret *Whirlpool*, into which the *waters* ruſh with ſuch violence, that their ſound may be heard for ſome *miles*.

Propoſition

Proposition XXIX.

River-water is more light than Sea-water.

Sea-water more heavy than River-water.

The cause is easily known, to wit, *Sea-water* carrieth much *Salt* in it.
Thence it hapneth, that many things sink to the bottom in *Rivers*, which float on the *Sea*; which frequently is seen in *Ships* heavy laden, that are raised up in the *Sea* higher than when in *Rivers*. Now various is the proportion betwixt these *waters*, because that the *Sea-water* is not every where of the same gravity, nor the water of divers *Rivers*; but yet the proportion is about 46 to 45, so that 46 ounces of *River-water* do equally ponderate 45 of *Sea-water*.

CHAP. XVII.

Of Mineral Waters, Baths, and Spaws.

Because that there are many kinds of liquid Bodies, or Waters, the peculiar properties of which men do admire at; therefore *Geographers* are wont to treat of them: But all of them hitherto, except a bare recital of their Names, and a reckoning up of some wonderful Fountains, or Springs, have added nothing to solid knowledge. But we shall treat more clearly of them, and that with a declaration of their causes.

Proposition I.

No Water is pure and Elementary, but containeth or hath admixed particles, such as are found in Terrestrial Bodies: These particles are not only Earth, but also they are various; as Oyls, Spirits, and the like. That is termed Mineral-water, which containeth so many, or such particles of a different nature from the Water, so that from them it gaineth, or hath notable qualities, which we discover by sense, or the properties are notable by sense.

No Water is pure, but hath admixed particles.

THe truth of the *Proposition* is manifest by Experience, and is proved both from the differences of *tasts*, and from *distillation*: and all *Naturalists* agree, that simple or pure *water*, as the other *Elements* separated from others, do not exist in nature. The cause is, the various and perpetual agitation of the *particles*; but in *Waters*, that I may say somewhat in particular concerning our matter in hand, by the cause of admixtion of Heterogeneous, they receive Spiritual particles. The *Rain*, and the *Air* it self, touching the *water*, consists of divers *particles*; therefore all *waters*, have admixed *particles* of another nature; but there is not the like quantity in all of them. Into the *Rhine* indeed, the *Danube* and *Albis*, and into all great Rivers, other *Riverets* do flow in, impregnated with innumerable particles, and in such quantity, that they are evident to the senses: but because besides these, many other *Riverets* do flow into them, not impregnated with so great a quantity of *Heterogeneous particles* as are discoverable to the *eyes*; and because that the greatest part of the water that they carry, consists of *Rain* and *Air*, therefore also in these greater *Rivers*, those *Heterogeneous particles* are not easily discovered, but

but must be separated from them by Art, if that any one will have them discovered to the sense. But we shall especially call them *Mineral waters*, which have some notable property beyond the common *waters*; that is, that contains such an admixture of *Heterogeous particles*, that thence posses a notable and sensible quality.

Proposition II.

Mineral Waters are of three kinds.

Of Mineral waters.

Some are *Corporeal* (we want an apter word,) others *Spiritual*, others both *Corporeal* and *Spiritual*. I term those *Corporeal Mineral waters*, which contain solid and fixed *particles* of *Minerals*; so that these may be discovered and separated by the sight. These *Corporeal Bodies* are twofold; some carry those *particles* of *Minerals* of a very great magnitude, that without any trouble, or very little at the least, they may be beheld in the *water*, and to speak properly, they are not commixed *waters*. Such are those of which we have spoken in the former Chapter, because that the *grains* of *Gold*, *Silver*, and the like, are contained in their *waters*; therefore they are termed *Gold* and *Silver*-bearing Rivers: but these *waters* in property of Speech, are not to be termed *Mineral*, because that they have not these *particles* commixed with them, but free; neither do they recive any property or quality from them: Yet because that men also admire such *Rivers*, and the explication of them hath great affinity with the enodation of *Mineral waters*, properly so termed; therefore I comprehend them under the general appellation of *Mineral waters*. *Bituminous Fountains*, and the like, may be reduced under this *Classis*.

Corporeal Mineral waters.

But those are termed more properly *Corporeal Mineral waters*, which contain indeed solid *particles* of *Minerals*; but so little, small, and altogether commixed, that they are not presently discovered by the sight, but either by *Art*, or a long tract of time, subsiding and concreasing, and are reduced into a sensible quantity; as are *Salt Springs*, *Sulphureous Fountains*, and such like; and *Chymical waters*, in which *Mettals* are dissolved.

Spirituous waters.

Spirituous waters are those, that contain only a *volatile Spirit*, such as is found in *Minerals*; but no fixed *particles*, and therefore none can be elicitated from them apparent to the sight.

These are termed *Corporeal* and *Spirituous waters* together by me, which have both fixed or solid, and volatile or *Spirituous particles* of *Minerals* in them. We shall alledge Examples of the *Species* of them in the following *Propositions*.

Proposition III.

To explain, how Mineral Waters are generated.

Of the generation of Mineral waters.

1. If that *Waters* be carried by a violent torrent or course through *Subterraneous passages*, in which *Metallick Earth* and *Minerals* are less thick; it is manifest, that the *water* may take and carry away from these with it *grains* of those *Mineral waters*: this therefore is the generation of *Corporeal Mineral waters*, that carry *grains*.

2. If that the *Minerals* be imperfect, or less dense; as *Vitriol*, *Sulphur*, and the like: or also the *Salts*, which of their own nature are easily united to the waters, if that the *Waters* or *Riverets* be carried through these *Earths* (without *Channel* or *Aqueduct*, as we have explained in the generation of *Fountains*) the *water* cometh to the *Fountain*; this will have the *Atoms* of these *Minerals* admixed, and it will be a *Corporeal Mineral water* of a subtile conjunction, according to the *Atoms*. Now whether that the *water* can unite the *Atoms* of *Mettals* after this manner to it self, is questioned, because that they are hard and solid, neither are they easily united to the *water*. I suppose it possible to

to be done, but not by ſimple *water*, but by a ſalt *vitriolated water*, which is like unto the *Aqua fortis* of the *Chymiſts*: For as theſe *waters* of *Aqua fortis* diſſolve *Metals* into *Atomes*, and intimately unite them to themſelves, ſo that they ſink not to the bottom, unleſs that they be ſeparated by *Art*: So alſo if that ſuch *waters* be carried through *metallary earth*, they are able to diſſolve the *metallick particles*, and unite them to themſelves. After this mode is the generation of *mineral corporeal waters* of the ſecond *Claſſis* explained.

3. In the *bowels* of the *earth*, before that *Metals* are generated, *vapours* and *fumes* are condenſed unto the extant *Angles* of the *Rocks* unto which they adhere; and firſt they meet together in a ſoft ſubſtance, and at length they are condenſed: therefore if that the *waters* are carried or glide through the *earth* where ſuch vapours are, and are raiſed, they are impregnated by them, and ſo *ſpirituous mineral waters* are made. But imperfect *Minerals*, after another mode, cauſe *mineral waters* of their own nature, *viz.* becauſe that being heated by their own or ſubterraneous heat, they ſend forth *ſpirits* and *vapours*, as *Salt*, *Sulphur*, *Vitriol*, *Coals*, and ſuch like: and ſuch *fumes* and *exhalations* are continually made in places of ſuch *Minerals*, through which if that the *water* glide, it is impregnated with the *ſpirit*. There are ſome that ſuppoſe theſe *ſpirituous waters* may be generated only by being carried through the *metallick earths*; or by a continual ſtay upon them, or in their *Mines*: but it is certain by experience, that the *waters* receive no quality from the *Metals* and *Minerals*, if that they ſhould lye 100 *years* immerſed in them: therefore laying aſide this opinion, we affirm that thoſe *waters* are generated, or *ſpirit* received, from, firſt, the ſeed of *Metals*, as I may ſo ſay, or their *Primordia*; or ſecondly, we may ſay, that thoſe *waters* are now impregnated by other ſubtile *Spirits* of *Vitriol* or *Salt*, by the benefit of which a *Spirit* is extracted from the hard *Metals*: But I attribute the leſs to this cauſe or mode of generation, becauſe here ariſeth a queſtion again concerning the generation of the *ſpirituous water* of *Mineral*, *Vitriol*, and *Salt*.

4. From theſe together, it is evident how *mineral waters*, that are both *corporeal* and *ſpirituous*, are generated.

Propoſition IV.

There are innumerable kinds of mineral waters, according to the variety and diverſity of the particles which they contain of divers Minerals.

Many kinds of Mineral waters.

In the precedent *Propoſition* we have explained, how that *mineral waters* may receive thoſe *particles* (from which their admirable qualities do ariſe) from *Minerals* or *Foſſils*. Now becauſe that there are various ſorts of *Minerals*, thence it cometh to paſs that the *mineral waters* are various and different in their qualities; yea, they are almoſt infinite: For neither only are every one of theſe *waters* impregnated by one kind of *mineral*, but together many of many; wherefore *mineral waters* will either be ſimple or mixed, and the mixed will have ſomething either from three or four, or from many *Foſſils* or *Minerals*.

Thence 1. are *Metallick waters*, *viz.* of *Gold*, *Silver*, *Copper*, *Tin*, *Lead*, *Iron*.

2. *Salt waters*, *viz.* of *Common Salt*, *Niter*, *Alome*, *Vitriol*.

3. *Bituminous waters*, *Sulphureous*, *Antimonial*, of *Coals*, and of *Amber*.

4. The *waters* of the *Earth* and *Stones*, *viz. Lime-waters*, *Chalk*, *Ochre*, *Marble*, *Alabaſter*.

5. *Mercurial waters*, and the like.

Theſe

Theſe denominations, or kinds of *waters*, are to be underſtood according to the triple mode, by which in the ſecond *Propoſition* we ſaid, that *Mineral waters* were, 1. Some *Corporeal*, and even manifeſt to the ſenſe; or *Corporeal* by a ſubtile and accurate commixion. 2. That others were *Spirituous*. 3. That others were *Corporeal*, and alſo *Spirituous*. Theſe differences muſt be applied to every kind of *Mineral-water*, *viz.* (to demonſtrate by one or another Example) *Gold-waters* are, 1. *Corporeal*, which carry grains of *Gold* of that *magnitude*, that with little trouble they are diſcernable to the ſenſe, neither have they any accurate coherencies admixed unto them. 2 *Corporeal waters*, which poſſeſs very ſmall *particles* of *Gold*, and indeed very cloſely connexed to the *water*; ſuch *waters* I ſuppoſe to Be. Although the nature of *Gold* be ſuch, that the leaſt *grains* in the water ſink to the bottom, yet that ſuch may be, is manifeſt from the *Aqua Regia* of the *Chymiſts*, in which *Gold* is diſſolved into *Atoms*. But this *Aqua Regia* is not ſimple; therefore neither do thoſe *waters*, that are found in nature to have *Atoms* of *Gold* admixed, want other *particles* of *Minerals*. 3. *Spiritual Golden-waters*, which conceive a *ſpirit* and *vapour* in the *Earth*, from whence *Gold* is wont to be generated. 4. *Golden Corporeal-waters*, and alſo *Spiritual*, which poſſeſs both *Atoms* of *Gold*, and a vapour generating *Gold*.

See Propoſition II.

A fourfold difference of Mineral waters.

After the ſame manner the Readers muſt apply this fourfold difference unto every kind of *Mineral waters*, both ſimple and admixed, (whence innumerable kinds do exiſt; for either the *bodies* of the *Minerals*, or the *Spirits*, or the *body* of one with the *ſpirit* of another, are conjoyned in the *water*:) ſo *Leaden-waters* are fourfold, *viz.* 1. Manifeſtly *Corporeal*. 2. *Corporeal*, of a ſubtile mixture. 3. Infected with a Spirit of *Lead*: and 4. Impregnated both with the *Spirit* and *Atoms* of *Lead*. So thoſe four divers participations of *Minerals* are to be applied to *Vitriol*, *Sulphureous*, and *Mercurial waters*, and the like; and more eſpecially to theſe, to wit, to *Salt*, *Vitriolate*, and *Sulphureous*, becauſe in theſe, Nature it ſelf doth exhibit this fourfold variety. I doubt whether that *Corporeal waters* of a mixed ſubtilty do exiſt. *Spirituous Metallick waters* are very rare; but *Sulphureous* and *Salt waters* are frequent. But the *Corporeal* and *Spirituous*, becauſe theſe ſorts of *Metals* are both found in many places of the *Earth*, and alſo in a greater quantity, and eaſily ſuffer their *particles* to be gnawed off; they ſend out alſo frequently, a fume and vapour. We will explain by one Example this fourfold variety of participation, and that in *Gold*; 1. In the preceding *Chapter* and the *ſixteenth Propoſition*, we have enumerated thoſe *Riverets* which carry *grains* of *Gold*, and with this Treaſury make glad the *Natives*; ſuch are many in the Earldom of *Tirol*, and the places adjacent: and we have ſaid that the *Rhine* it ſelf, *Albis*, *Danube*, and moſt great Rivers in ſome places carry *grains* of *Gold* (as alſo of other *Metals* and *Minerals*;) by reaſon that they receive *Golden*, or *Gold-bearing Riverets*. The *Rhine* carrieth *grains* of *Gold* commixed with *Clay* and *Sand* in many places; but eſpecially at theſe, 1. Near *Curia* in *Rhetia*; 2. At *Meinfield*; 3. At *Eglinſan*; 4. At *Secningham*; 5. At the Town *Auguſt*, not far from *Baſil*; 6. At *Norinburgh*; 7. At *Wormes*; 8. At *Seltz*; 9. At *Mentz*; 10. At *Bacherack*; 11. At *Bononia*, and the like. The Reader may ſee thoſe *Gold-bearing Riverets* which the *Rhine* receiveth in *Thurnhuſerus*, as alſo thoſe that the *Danube* and *Albis* do receive. In the *water* of this, *viz.* the *Albis*, are found grains of *Gold*: 1. At *Leutmeritz* in *Bohemia*; 2. At *Puru*; 3. At *Dreſda* in *Miſnia*; 4. At *Torga*; 5. At *Magdeburgh*; 6. At the Tower of *Lunenburgh*, fifteen *miles* from *Hamburgh*. Concerning the *Gold-bearing Riverets* conſult the forecited Book of *Thurnhuſerus*; where alſo you may ſee thoſe that carry other *Mettals* and *Minerals*.

Theſe *Waters* are therefore the *Corporeal Golden-waters* of the firſt mode, *viz.* thoſe that carry *grains* of *Gold*; which leſs properly are termed *Mineral* or *Golden*, becauſe the *Golden grains* are not permixed with the *water*, but are carried down by the rapid Current of the water; and the *waters* themſelves are ſimple or uncompounded. 2. *Golden Corporeal-waters* of a ſubtile

commixtion, to wit, the Atoms of whose *waters* are mixed with the *Atoms* of the *Gold*; as we have said of the *Aqua Regia* of the *Chymists*, which dissolveth the *Gold*, and uniteth it to it self by *Atoms*. And now, because there may be like *waters*, which whether they be carried through *Golden-lands* or *Mines*, may gnaw off and dissolve some *Golden-Atoms* of it with Earthly ones; such *Golden-waters* many *Riverets* seem to be, which *Thurnhuserus* writeth to participate of *Gold*, and reckoneth them up in the description of the *Danube*, *Rhine*, and other great *Rivers*.

3. The *Golden Spirituous-waters* are very few, and some of those are they peradventure, which *Thurnhuserus* enumerateth. Now such *waters* are less noted or sensible, because *Golden-Earth* and *Mines* are very rare, and that in a small quantity: Moreover where the *Mines* are, a quantity of other *Minerals* are also together with the *Gold*, whence the *water* receiveth many more *Spirits*. Yet some *Riverets* in the high *Alpes* of *Bohemia*, are said to participate of these *Golden-Spirits*; also in *Silesia*, and the *Mountain* that they call *Fitchtelberg*. The *Pepper-Baths*, in the Bishoprick of *Curia*, are believed to be impregnated with such a *Spirit*; but by reason of the admixture of other *Minerals* in greater quantity, the *waters* receive a less sensible quality from it.

4. *Golden-waters*, which carry both *Atoms* of *Gold* and *Spirit*, are some of the *Riverets* mentioned by *Thurnhuserus*.

We will add the Example of *Salt-waters*:

Example of Salt-waters.

1. *Salt Corporeal-waters*, *viz.* which carry the more gross *particles* of *Salt*, and not accurately mixed; they are many, and sufficiently known to any person, as certain *Springs* of which *Salt* is made: Hitherto appertaineth the *Sea-water*, if that it be made more gross by the *heat* of the *fire*.

2. *Salt Corporeal subtile-waters*, which contain the *Salt* reduced into little *particles*; they are those, which when they are most *Salt*, yet withal they are very pellucid and subtile, as many *salt Springs* and *tenuous Sea-water*; although that there be great difference in this subtile commixtion: Hitherto appertaineth the *Urin* of all *Animals*.

3. *Salt Spirituous-waters*, which contain not the *particles* of *Salt*, but the *spirit* of *Salt*: they are such, that if you should boyl many *Vessels* of them, yet notwithstanding you should receive no *Salt*. Not a few of these are in *Germany*, and elsewhere; but they are rarely found simple.

4. *Salt Corporeal*, and *Spirituous-waters*, which have *particles* of *Salt* and *Spirit*.

Almost all the *Corporeal* have also some portion of *Saline spirit*, but most of them very little: So, near the City *Saltzinga*, not far from the *Rhine*, the *Fountains* are *salt*; the *water* of which, though more *salt* than other *waters*, yet it affordeth less *Salt*, because its sharp and salt sapor is sharpned by a *spirit* or *volatile Salt*, that flyeth away in the *boyling*. Hence it is manifest how this fourfold difference of participation is to be applied unto every sort of *Mineral waters*, *viz. Vitriolate-waters*, *Alom-waters*, *Lead-waters*, and the like.

Proposition V.

To reckon up the noted differences of Mineral Waters.

The noted differences of Mineral Waters.

In the foregoing *Propositions* we have explained the true kinds and differences of *Mineral waters*, taken from the very essence of them, *viz.* from the particles of the *Minerals* which they carry, or by which they are impregnated; but those differences, because they do not so strike the senses; and moreover, by reason of the various mixture of *Minerals*, communicate various properties to the *water*, wherefore they are less vulgarly known; for the denomination of all *Bodies* ariseth from manifest qualities on the Sense, as also doth the celebrity of *waters* amongst men. The explication and cause of which

which apert *qualities* and *properties* must be sought from the inmost composition of things. Therefore the noted and famous differences or species of *Liquors* flowing from the *Earth*, and also known to the Vulgar sort of men, are these ten; to wit, 1. *Sowr-waters*: 2. *Bitter*: 3. *Hot*: 4. very *Cold*: 5. *Oily* and *Fat*: 6. *Poysonous*: 7. *Coloured*: 8. *Ebullient*: 9. *Water* that converts less hard into harder, or after any other mode, changing any Bodies cast in or stained with them: 10. *Salt-waters*: And in the 11*th* place we may add those, which are endowed with any other wonderful property. Unto these *Classes*, those that are studious in these things may reduce all *Waters*, which are found described in *Authors*. We shall only in brief shew their generation and differences, and alledge some Examples.

Proposition VI.

To explain the cause or generation, difference or kinds of Acid or Sowr Waters.

Of Sowr Waters.

Great is the celebrity of *Acid waters* or *Springs*; they commonly call them *Spaws*.

1. They arise from the admixture of a *Spirit* of *Vitriol*, *Salt*, and *Alom*; which *Minerals*, being partly simple, and partly more or less admixed with other *Minerals*, are found in the cavities of the *Earth*, especially in *Iron*. We prove this to be the true cause of *Acidula's* and *Spaws*: 1. By reason that almost every where, where such *Acid waters* break out, Mines of *Vitriol*, *Salt*, and *Alom*, are found. 2. Because the *Spirits* of *Vitriol* and *Salt*, are *Acid*, as also some *Spirits* of *Sulphur*; as is evident from *Chymistry*. 3. Because that from these kind of *Acid waters*, no *Acid body*, but *Spirits*, is separated, which are altogether like unto the *Spirits* of *Vitriol* and *Salt*.

2. Great is the quantity of *Acid waters* or *Spaws* in divers *Regions*, where *Mines* especially abound. The cause is, because that an Acid, Sowr *Spirit* is almost in all *Bodies*; (by reason that we have shewed, that it is Elementary, in the *Seventh Chapter* and *first Proposition*) it is found in all *herbs* and *fruits*.

The difference of Spaws.

3. The difference of *Spaws* is found to be notable: Some are found to be so sharp or sowr, that men make use of them instead of *Vinegar*. Such a *Spring* is found in *Nicana*, a Province of *Sicilia*: In *Germany*, the Fountain at *Elleboga* is of a wonderful *Acidity*. Other *Acid Springs* are termed *Winy*, because that by their sharpness they come near the grateful tast of *Wine*; amongst which, that is famous which is in the Earldom of *Catzenellebocen* in *Germany*, at the Town *Schwalbach*. In the Province of *Lyons* in *France*, at the Town of St. *Baldomare*, is a Fountain termed *Fontaine forte*, that is, the *strong Fountain*: it supplieth the want of *Wine*, and if that one fourth part of it be mixed with *Wine*, it will want nothing of the tast of Wine; if it is poured on *Flour* it will presently ferment. They can boil no *Meat* in it, for by reason of its subtilty it flieth away: It is very wholsom, so that the *Inhabitants* seldom use a *Physician*.

In *Aquitaine*, not far from the City *Bessa*, is the like *Winy* sharp *Spring*; unto the *waters* of which, if that you only admix the sixth part of Wine, you will imagine, that you drink pure Wine without any admixture of water. Nigh to *Rome* is an *Alomy sharp Fountain*, which being mixed with Wine, maketh a very grateful Drink. Great is the number of *Acid Springs* in the *Upper Germany*, whereof some flow into the *Danube*, and others into the *Rhine*. Very many are in the forementioned Earldom of *Catzenelleboch*, in the Province of *Tviers*, in *Tirolis*, *Rhætia*, *Vindelicia*: a noted one is near *Anderna*, called *Heilbrun*. In the Province of *Toledo* in *Spain*, near the Village *Valentiola*, are Springs, which at the bottom are found Acid, and of a Winy tast, and in the upper part, *sweet*; which *Baccius* thinketh to happen, because that the Nitrous and Acid parts do subside and sink to the bottom. But I suppose, if that the Relation be true, that it proceedeth from the subtilty of the *Spirit*, which being brought to the *superficies*, presently do expire.

Other *Acid Fountains* are aſtringent, and contracting the palate, which is a token of *Iron particles*, or of the admixture of *Vitriol*, as alſo of *Alom*.

The *Water* of *Acid Fountains*, in *Rainy* and *Cloudy weather*, is found leſs *Acid*; which is a ſign of an admixture of condenſated *Air*. Alſo, if that the *water* be expoſed to *heat*; or if it ſtand in an open *Veſſel* for ſome hours; or if it be carried a long Voyage not well covered, in cold *Veſſels*, it preſently loſeth its *Acidity*; which is a ſign, that the *Acidity* of them dependeth on a ſubtile Spirit.

Yet they alſo have *Atoms*, and the very *Vitriol*, *Alom*, *Iron*, *Salt*, *Gravel*, and the like. This is proved from the matter that is diſcovered to adhere to the *Conduit-pipes*.

The Studious may collect Examples by reading of *Authors*: At leaſt two hundred *Acid Springs* or *Riverets* run into the *Rhine*; but by reaſon of the ſubtilty of the *Spirits*, nothing of acidity is diſcovered in the *Rhine*.

Do you demand, why there are no *Acid Fountains* in the *Northern places*? I ſuppoſe that cauſe to be the defect of *Subterraneous heat*, and an over great condenſation of the *Earth*; as alſo for that cauſe it cometh to paſs, that little or no *Gold* is found in thoſe *Regions*.

Propoſition VIII.

To explain the generation of hot Springs, termed Baths, *and the places of the more famous of them.*

Of the generation of hot Springs or Baths.

A Spring in *Izland* is judged the moſt fervid of them all, whoſe *water* little differeth from that, which hath arrived to the higheſt degree of *heat*, and boyling on the *fire*. But *Caronius* writeth, that in *Japan* there is a *Spring* ſo *hot*, that no *water* can be brought to that degree of *heat* by the moſt vehement *fire*. It floweth not continually, but twice in a day for one *hour* with a great force of *ſpirits*, and maketh a great *Pool*; which another hath informed me to be called by the Natives, *Singacko*, that is, *Hell*.

After thoſe, the hot *Fountains* or *Baths* of *Baden* in *Helvetia*, are famous. Then the *Baths* of *Apſona* in *Italy*. Of *Vulgar Baths* there is a great number in the *Upper Germany*, as alſo in other places. In *Scotland* is the Lake and River *Neſſa*, which is not *hot*, yet it is never congealed with Cold.

The cauſe and generation of *Baths*, is firſt the admixture of *Sulphureous particles*, whilſt the *water* is carried through *Subterraneous paſſages*; or rather, whilſt that it glideth thrpugh the *Sulphureous Mines* to a collection about the *Springs*. 2. The vapours of *Smoak* and *exhalations* within the *Earth*, where *Sulphur* is pure or impure, as *Peat*, *Coal*, *Amber*, and the like; for theſe *materials* continually ſend forth a calid or warm fume, which heat the *waters* carried thither, or gliding through thoſe places. Yet *particles* of *Alom* are admixed to many, nay the moſt *Baths*; as alſo of *Iron* and *Niter*, whence they have ſomewhat a ſharp and aſtringent taſt or ſapor. Almoſt all the *Baths*, which we know, flow without ceaſing, except the *Pepper-Baths* of *Germany*, which are famous in *Rhetia*, not far from *Curia*. And beſides *Sulphur*, they contain ſomething of *Gold*, and not a little *Niter*. The *water* of theſe *Baths* breaketh out every year about the third of *May*, and it ceaſeth to flow about the fourteenth of *September*. The famous *Baths* in *Germany* are the *Plumbaria* in *Lorrain*; *Emſebada*, above *Conſtantina* in *Alſatia*, near *Geberſweil* in the *Marquiſate* of *Bada*; *Wildbad*, in the *Dukedom* of *Wertebergh*; The *Blaſianæ* near *Tubin*. There are many alſo in *Japan*, and the *Indian Iſles*. There are ſuch hot ones in the *Iſlands* of the *Azores*, that an *Egg* may be boyled in them.

Propoſition

Propoſition IX.

To explain the generation of oyly and fat liquors flowing from the earth, and to enumerate the places of the earth in which they are found.

Of oyly liquors.

Some *Fountains* ſend forth a *bituminous liquor*, ſome a *fat* water, or water on which *drops* of *oyl* do flow. In *Scotland*, two *miles* from *Edenborough*, a *Fountain* floweth, on the whole *Superficies* of which drops of black *oyl* do *ſwim*: the *Inhabitants* uſe it to mollifie the *skin*, and to take away *ſcabs*. So the River *Cilicia*, tearmed *Liparis*, was famous amongſt the Ancients, in which thoſe that waſhed themſelves, were anoynted by the *water*: whether it be ſo at this day, I much doubt. So likewiſe there was a *Lake* in *Æthiopia*, which anointed thoſe that ſwam it. Alſo there was a *Fountain* in *India*, which on a clear day ſent forth a great quantity of *oyl*. In *Zant*, and about *Dyrrachium* and *Appallonia* (as *Vitruvius* writeth) there were *Fountains* which vomited out abundance of *pitch* with *water*. There was a *Lake* in *Babylon* of great magnitude, called *Limne Aſphaltis*, it had *liquid Bitumen* ſwiming upon it, with which, the black *Semiramis*, encompaſſed *Babylon* with a *Wall*. At this day alſo at *Monaſterium* in *Bavaria*, is the Fountain *Degemſee*, on the top of which *oyl* ſwimmeth, and is daily taken off. The *Acid waters* of *Schwalback*, if they be taken in a *Veſſel*, and have been ſettled for ſome *days*, ſmall drops of *oyl* ſwim on the top of them. There is a greater quantity in the *Fountain* tearmed *Oelbrum*, not far from *Hagenaw*, at the Village *Lamperſcholch*. Alſo in the many *Bathes* are found *bituminous particles*, if ſo be that they ſtood quiet for ſome days; as in the *Baths* of the Kingdom of *Naples*, tearmed the *Bath* of *Petrolei*.

Now the *Fountains* that ſend out not an *oyl* ſwimming on the *water*, but a meer fat or bituminous liquor, are alſo many. Near *Gersbachium*, in the *Valley* called *Leberſthal*, from an antiquated and exhauſted Mine, *oyl* or *bitumen* floweth, with which the *Country Swains* beſmear their *Cart-wheels*. Neither do the *Inhabitants* know its excellency. In the *Iſle* of *Sumatra* is a Spring from which *Naptha*, like unto *oyl*, floweth; others ſay that it is a kind of *Balſom*: they report *Fountains* of *Amber* to be there likewiſe. In *Peru*, near the *ſea*, is a *bituminous Fountain*, ſending forth a Branch or Riveret into the *Sea*. The *Natives* uſe it inſtead of *pitch*, neither do they uſe any other matter. In *Perſia*, not far from *Schimachia*, at or near the high Mountain *Barmach*, in a *Valley*, are about thirty *Fountains* of *Bitumen* or *Naptha*, but runing in deep *Wells* with a great force; the Depth is about two *Ells*, wooden ſteps being made for the conveniency of deſcent, it ſendeth forth a Sulphureous and ſtrong Spirit: it is of a twofold *colour*, in ſome *red*, in others *white*.

The cauſe of theſe *bituminous Fountains* is a *ſulphureous* and *bituminous matter* in the *bowels* of the *earth*, thruſt forth by a *heat* and *ſpirit*. The cauſe of the differences is to be fought from the differences of the fat matters themſelves; as *Succinum*, *Amber*, *Oyl* of *Petrolei*, *Pitch*, *Naptha*, and the like.

Propoſition X.

To explain the generation of bitter water, and to reckon up the places of the earth in which they are found.

Of the generation of bitter waters, and the places where they are found

Many *Fountains* and *Wells* in the *Regions* of *India*, on the *Choromandel*, have bitter water, although that they ebulliate in, and flow from *Rocks*. In *Pontus*, a Region of *Aſia minor*, a little River tearmed *Exampeus*, at the Town *Gallipadus*, is very bitter, it rendereth the River *Hypanis*, into which it floweth, alſo very bitter.

They

They arise from impure *Sulphur*, *Bitumen*, *Nitre*, *Ink*, *Copper*: as *water* left a long time in a *Copper vessel* acquireth a bitter taste.

The Lake *Asphaltites* in *Palestine*, which is called *Mare Mortuum*, or the *Dead Sea*, hath a bitter *water* by reason of the impure *Bitumen*, whence it ought to be referred to the fat *waters* of the former *Proposition*. It sendeth forth a stinking scent and vapour: all things without life sink to the bottom; but it suffereth not any *Animal* to sink; neither doth it grow sweet, although that it continually swalloweth up the River *Jordan*. It is venomous by reason that it containeth *Arsnick*.

Proposition XI.

To explain the cause of very cold Springs, and to enumerate the places of the Earth where they are found.

The cause of cold Springs.

In the Province of *Dauphin* in *France*, not far from *Vienna*, is a *Fountain* of so great cold, that the *mouths* of those that drink it are swelled with it, neither can they endure their hands in it: it is not diminished for the water that is drawn out of it, nor augmented by the *water* poured into it. In *Arabia* or *Æthiopia* are most cold *Springs*, although that the heat of the *Sun* be most excessive there. In *Stiria*, not far from *Gretz*, are *Fountains* so cold at the *bottom*, that none can drink any *water* runing or drawn from thence.

In a mile from *Calma*, a *Spring* sendeth forth water as it were boyling, with a great *wind*, when yet it is very cold; hence they call it *The mad water*. The cause of the coldness of these *Fountains* are, 1. The admixture of *Nitre* and *Alom*, also of *Mercury*, *Iron*, and the like. 2. The depth of the *Spring*, by reason of the defect of the *Solary Beams*, and of the *sulphureous subterraneous heat*.

There are also some *Springs* which are sometimes *cold* and sometimes *hot*. In *Catalonia*, the *Lake* and *Fountain Salsula* in the *Winter* is *hot*, and in the *Summer* very *cold*. This is common to it, with many others. I think the cause to be, that in the *Summer* the pores of the *Earth* are open, through which the hot *Spirits* break forth; in the *Winter* they are closed, whence within there are hot *Furnaces* that heat the *waters*: So some *Fountains* are more hot in the night than in the day.

Proposition XII.

To explain the generation of those waters which seem to change bodies into another kind; and to reckon up the places of the Earth where they are found.

Of the generation of waters which change bodies into another kind, &c.

There are some *waters* which change *wood* into the hardest *stone*. In *Ireland*, above the City *Armagh*, in a *Pool* not very large, a stake of wood if it be fixed for some months, the part that sticketh in the Mud will be *iron*, the part which is touched with the *water* is turned into *stone*, and the rest remaineth *wood*; so *Giraldus* and *Maginus* relate: but *Brietius* sayeth, I know not by what authority, that it is a meer fable. The *waters* of *Loches* in *Blois*, a Province in *France*, turn all things put into it into *stone*. At the City *Senon* in *Burgundia*, near a *Lake*, a Spring floweth which hardneth into *stone*. *Vitruvius* saith, that in *Cappadocia*, between *Mazaca* and *Tuana*, is a large Lake, which changeth a *reed* or *wood* put into it in one day into *stone*. In *Bohemia*, near the *Baths* of *Charles*, is a *Fountain*, in which *wood* lying long, is changed into *stone*. Other *waters* are thought to change *Iron* into *Copper*, which yet really they do not; but by reason that *waters* themselves carry *particles* and *spirit* of *Copper* and *Vitriol*, therefore they dissolve the *particles* of *Iron*, and by degrees take away from it, which whilst that they do, the *Copper particles* of the water are reposed in the place of the *Iron* ones taken away, or there adhere whilst that they glide with the runing water.

The

The reason of those that change *wood* into *stone* are these:

1. Some do not change the *wood* it self into *stone*, but *earthy*, *stony*, and *saline particles* contained in the *water*, do apply themselves to the *wood*, and so, as it were, cover the wood with a stony crust, and do not really change it.

2. Some do not change the *wood* into *stone*, but cause a *stony* hardness to the *wood*, which some *mineral waters* may possibly do.

3. If that some *waters* have truly changed *wood* into *stone*, I conceive it to be done after this manner; that chief difference is found by sight between the *wood* and the *stone*, that in the *wood* there are certain long *Fibres* or *Veins*, unto which the *particles* do cohere, and those are less thick: but in *stone* the *particles* are like unto *Atoms*, without any certain extension into long *Fibres*. If that therefore any water dissolve, and as it were grind the *particles* cohering in the *wood*, according to a long *line*, so that now they do no more cohere after this mode, but yet are more condensed; there will be no more any great difference between the *wood* and *stone*, as may be observed by our *Eyes*; yet it is probable that these *mineral waters* communicate some substance to the *wood* it self.

There are other *waters* whose faculty is reported to be able to change the colours in the *hair* of *man* or *beast*.

Proposition XIII.

To explain the cause of poisonous and death-causing waters, and to reckon up the places where they are.

Such is the Lake *Asphaltites* by reason of its *Arsenical Bitumen*. In times past, famous was the *Fountain* of *Terracina*, which was called *Neptunicus*, in the Region of the *Volsci*, of which those that *drank* were deprived of their *lives*; therefore it was filled up with *stones* by the *Inhabitants*. In *Thessalia* a *Fountain* springeth of which no *Cattle* drink, nor no kind of *Beast* approacheth. Famous, or rather infamous, is the *water*, which in the Region of *Arcadia*, called *Nonacris*, the Ancients write to drop exceeding cold from stony *Rocks*, therefore called the *Infernal* and *Stygian water*, which no vessel, either of *silver*, *brass*, or *iron*, could be preserved in, without breaking. And by this *water* Historians report that *Alexander* the Great was killed by *Jolla* Son of *Antipater*, and that not without the infamy of *Aristotle*. At this day many mortiferous waters are found in the Places or Regions called the *Alpes*; but most of them are stopped with *stones*, which is the reason that so few death-causing *Fountains* are known. Of poisonous waters.

Now the generation of such *water* is, if the *water* glide or flow through *Arsenical*, *Mercurial*, or *Antimonial Earths*, and are impregnated with their fumes: For as the smoak or fume of *Arsnick* killeth *living creatures*, so *waters* impregnated with such a fume, do the same.

Proposition XIV.

To explain the generation of coloured waters, and their differences, and to enumerate the places of the Earth in which they are found.

At *Chinen* in *France*, *water* floweth from a *Cave* of somewhat a *yellowish colour*. In the Kingdom of *Congo* a *Riveret* floweth of a *red colour* into the *Sea*. In some places *waters* flow of a *black*, of a *green*, and such like *colours*, but they are but few. Of coloured waters,

The cause of the colour of these *waters* is, that they glide or run from *lands*, before they come to the *Fountain*.

Pro

Proposition XV.

To explain the generation of Salt-waters, and to reckon up the places of the Earth in which they are found.

Of the generation of Salt-waters.

The *generation* is twofold: 1. From the *Ocean* they come through *Subterraneous passages*, and flow to the *Superficies* of the *Earth*. 2. They are *generated* of a *Salt* contained in the *Earth*, such as is found in many places, through which whilst the water glideth, it conceiveth *Saline particles* and *spirits*, before that it arrive at the *Spring*. Great is the plenty, and that known to every one, of *Salt Fountains*. We have spoken in the preceding *Chapter*, and this matter is easily known, by reason of the abundance of *Salt*, almost every where lying hidden in the *Earth*, seeing that *Salt* it self is an Element.

Proposition XVI.

To explain the cause of Ebullient Fountains, and those that break out with a great spirit and wind; and to enumerate the places of the Earth wherein they are found.

Of ebullient Fountains.

The cause is partly a *Sulphureous spirit*, and partly a *Nitrous spirit* commixed with *water* in the *Earth*: if that it be a *Sulphureous spirit*, the *waters* are hot; if *Nitrous*, cold: For neither are all the *waters* which ebulliate like to those that are *hot*, *hot*, but many of them are *cold*, as is evident from that near to *Culma*, called a *mad water*, of which we have spoken in the *Twelfth Proposition*. The River *Tamayus* in *Galæcia*, ariseth from a Lake; in its rising, for some months of the year, it sendeth forth a mighty noise. In *Japan* that wonderful *hot Fountain*, of which we have spoken in the *Eighth Proposition*, not above twice every day breaketh forth, for the most part for one *hour*; now when that the *water* beginneth to flow, it is carried with so great a force and vehemency of *wind*, that it moveth the vast *Stones* incumbent on the *Well*, and leapeth to the height of three or four *Ells* with so great a noise, like unto the discharge of *Cannon*. In *Westphalia* a *Fountain* breaketh forth, tearmed *Bolderborn*, from its noise.

Most of the *Spaws* and *Baths* break forth with an abundance of *wind*, and ebulliate as if they boyled; a *Sulphureous spirit* causeth this in the *Baths*, and in the *Spaws*, the *Spirits* of *Vitriol*, *Nitre*, and the like.

Proposition XVII.

To enumerate the kinds of waters which have other certain wonderful properties, and to explain the causes of them.

Other kinds of waters of wonderful properties.

Unto this *Classis* all others ought to be reduced, which cannot conveniently be referred unto the former sorts. So there is a *Fountain* in *Portugal* tearmed *Cadina*, devouring all that is cast into it: Also in times past there was another near to it, rejecting all things cast into it; but this latter is obstructed. In *Andalusia*, not far from the City *Guadiana*, *Eusebius Nierenburgius* relateth, that there is a Lake which sheweth the Seasons or Tempest; for when that this is approaching, it maketh an horrible noise, which is oftentimes heard for the space of 18 or 20 *miles*. In *Calice* in *France* is a *Well*, into which if that a *Stone* is cast in, a noise will be heard like *Thunder* in the cavities of the *Well*. In the *Alpes* are *Wells*, whose water being drank off, contracteth swellings of a great bigness hanging from their necks. In the Kingdom of *Granada*, at the Town *Antiquarius*, is a *Fountain* of so great force, that it dissolveth *stones*.

Near

Near unto *Tours* in *France* are *Caves* to be seen, tearmed commonly *Les Caves Gouttieres*, from the roof of which the water which falleth is formed into divers shapes, as *Nuts*, *Almonds*, and the like.

The *hot Fountain* of *Japan* burneth all things, and devoureth *cloth*, *iron*, *flesh*, &c. The studious may collect divers other *examples* from other *Authors*, and reduce them to this *Classis*, if that they seem not possible to be reduced to any of the former. The Causes must be sought from the peculiar *situation* and *property* of each place.

Proposition XVIII.

To enumerate those Fountains which break forth at a set time, not continually; to explain the cause, and those which ebb and flow.

Of Fountains which break forth at a set time, not continually.

This *Proposition* belongeth not to this *Chapter*, but to the preceding; yet because it belongeth to the wonder of *waters*, and was neglected in the former *Chapter*, here it shall be explained.

In a *Fountain* situated on the top of an high Hill, in the Province of *Canaugh* in *Ireland*, the water *ebbeth* and *floweth* every day with the flux and reflux of the *Sea*; yet the water is *fresh*. The same is observed in the *Fountain Lowzara*, which is in the mountainous places of *Galecia*, called *Cabreti*, 20 *miles* from the *Sea*. Also in *Aquitain*, in the Village *Marsacus*, is a *Fountain* which imitateth the swelling of the *Sea*, and swelleth with the increase of *Garumnæ* in *Burdeaux*. Elsewhere there are said to be *Fountains* which augment and decrease contrary to the swelling of the *Sea*.

In *Wales*, near the mouth of the River *Severn*, is a *Pool* called *Linliguna*, which swalloweth in the *Marine floods*, whilst that they arise, but it is by no means filled with the same; and the *flood* of the *Sea* ceasing, then it riseth with a great force, and vomiteth out the *water*, with which it covereth the Banks.

In *Biscay* there are the four Springs *Tamarici*, whereof three every day are so dried twelve times, as if that no *water* were in them, as *Pliny* reporteth: But I question whether they be to be found at this day.

In *Savoy* is a *Fountain* of noted magnitude, called *Wonderful*, which sinketh low twice in an hour, and twice floweth; and before that it floweth, and doth break forth with a great noise, it floweth into the Lake *Burgites*.

In the *Mountains* of *Foix* in *Languedoc* riseth the River *Lers*, which in the Months *June*, *July*, and *August* ebbeth and floweth 24 times in a *day*. See *Bertius*.

In a Region of *Westphalia*, called *Paderborn*, is a *Fountain* which ebbeth and floweth twice every *day*, although it sendeth forth so much *water*, that not far from the *Fountain* the *water* driveth four *Water-mills*; and it breaketh forth with a mighty noise.

In the Province of *Wallis* in *Germany* is a *Fountain*, called the *Fountain* of St. *Mary*; it ceaseth to flow in the *Autumn* at the day dedicated to St. *Mary*, and returneth in *May*.

The Pool or Lake *Marun* in *Palestine* is so dry in the *Summer*, and bringeth forth *Herbs* and *Shrubs* so high, that *Lions*, *Wolves*, and other wild *Beasts* do abide there.

In *Spain*, two *miles* from *Valindolid*, is a *Fountain* which ariseth in *May*, and falleth in *November*.

All *Baths* flow without any cessation or change, except those that are in *Rhætia*, and are called the *Pepper Baths*: for they flow only in the *Summer*, from the third of *May* to the fourteenth of *September*, then they cease.

CHAP.

CHAP. XVIII.

Of the Mutation of the places of the Water and Land, or of the Mutation of the watery superficies into the earthy, and the contrary.

Proposition I.

To know the Superficies of the Earth, which the water possesseth, how great it is, and that which the Earth occupieth.

Of the Superficies of the earth, which the water possesseth.

WE cannot accurately know this, because we are ignorant whether the *Sea* or *Land* doth possess the *Superficies* of the *North* or *South Polary-land*. Moreover, because the *Superficies* of the *water*, as also of the *land*, is terminated on the *Globe* by an irregular bending of the *lines*, therefore it would be a very difficult task to compute the quantity of the *Superficies* of the *water* and *land*; but as far as we are able to collect in gross from the inspection of the *Terrestrial Globe*, the *Superficies* of the *water* and *land* seem almost equal, so that the *Superficies* of the *water* is half to the *Superficies* of the *land*, and so also is the *Superficies* of the *land*.

Proposition II.

The Superficies of the Water, as also of the Land, is not at all times of the same magnitude, but sometimes greater, and sometimes lesser; and when the Superficies of the Water is augmented, the Superficies of the Land is diminished.

For the *Sea* overfloweth sometimes here, sometimes there, or taketh away and carrieth with it: so therefore his *Superficies* is augmented more or less, as it hath overflowed a great or less tract of *Land*, as in times past it did in *Thessaly*. Yet this variety, as far as it is yet known, hath a very little proportion unto the whole *Superficies* of the *water*: it may be made great, as we shall shew in the *eighteenth Proposition*.

Proposition III.

To compute what quantity of Water the Earth containeth, and what quantity of Land.

Of the quantity of Land and Water which the Earth containeth.

For the finding out the accurate and true quantity of *water* and *land*, first we ought to know both the whole *Superficies* of the *water*, as also its depth in divers parts of the *Sea*: also the *subterraneous heaps* of *water* ought to be examined. All which, seeing that we cannot find out by any method, therefore we cannot find out the accurate quantity of the *water* or *land*; but only from certain *Hypotheses*, *viz.* we laid down the *Superficies* of the *water* to be half the *Superficies* of the *earth*; the profundity to be a quarter or half a *mile*; neither do we reckon the *waters* in *subterraneous Channels*.

The quantity of *water* may be thus found out: Take a quarter, or half a *mile* from the *Semidiameter* of the *earth*, and the solidity of the *Sphere* may be found, whose *Semidiameter* is equal to the residue; let this solidity be taken from the solidity of the earth; the half of the residue is the quantity of the *water*: the same half substracted from the solidity of the whole *earth*, leaveth the quantity of the *earth*, unto which must be added a fourth or fifth part of the bulk of *water*, or of the former half. But these are uncertainties from supposed uncertainties, or at least nigh unto truth.

Pro-

Proposition IV.

The Water may leave the shoar and place of the Earth which it doth occupy, for divers causes, so that the Land may appear dry, where the Water or Sea was before, and so a new Land may seem to be generated.

There are a sevenfold Tract of *waters*, *viz.* 1. the *Ocean*, 2. *Gulphs* or *Bays* of the *Ocean*, 3. *Streights*, 4. *Rivers*, 5. *Lakes*, 6. *Pools*, and 7. *Marishes*. A Sevenfold Tract of Waters.

1. *Marishes* may be exsiccated or drained either by subduction of the *water*, or by exsiccation of the *earth*, as none can doubt; for in many *Regions* the *Soil* is fruitful where there were *Marishes* some years since, as in *Westphalia*, *Gelderland*, *Brabant*, *Holland*, *Muscovia*.

2. The same is the account of *Pools*, seeing that they differ not much from *Marishes*.

Proposition V.

Rivers leave their Channel or Shoar, (that is, part of their Channel) and afford new Land.

1. If that they carry much *Terrestrial matter*, *Sand*, or *Gravel* with them, which sinketh to the bottom, in progress of they time so augment the *Altitude* of the *Channel*, that it is no more depressed than that place from whence the *water* floweth from the vicine *earth*; but if that that matter sinketh into one place in part of the *Channel*, it will separate one part, which then at length will be dried up. Rivers quit their Shoar, and afford new Land.

2. If that the *River* take another *Channel*, whether it be done by *Art* or *Nature*, and a violent cause, as by *Wind*, *Inundation*, or the like.

3. If the *Springs* of the *Rivers* be obstructed, or cease to send forth *water*, the *earth* being fallen in or condensated, or a great quantity of *Sand* being driven by the *winds* into the *Fountains* or adjacent places.

Examples of *Rivers* whose *Channels* are exsiccated at this time, either in whole, or in part, are every where obvious in *Writers*, yet not of great *Rivers*, but of small, or of the parts of any great *Rivers*: So a *Channel* of an *Arm* of the *Rhine*, which flowing by *Leyden*, flowed in times past into the *German Ocean*, now for some Ages deserted by the *water*, at this day is *land*, the *Rhine* stagnating between *Leyden* and the *Vicus Cattorum*.

The *Shoars* are uncovered from the *waters* of *Rivers*, and that some *Rivers* run in a more narrow *Channel* than they did formerly, is manifest from many examples, and from thence that some at this day are not *Navigable*, which formerly were, may easily be collected; the *Altitude* of the *water* being diminished, and none at all to be left in their *Channel*, at some time or other, as in the River *Scaldis*: Therefore *Governours* of *Commonwealths* have a great care that the *Mud* and *Sediments* be drawn from out the *Channels* of *Rivers*, that they may remain *navigable*, as is seen in many places.

But great *Rivers* cannot be dried up or changed into *land*, except in many *ages*, because that many lesser *Rivers* flowing from divers parts, make them, (of which though some may be dried up, or change their course, yet all do not suffer the same, except in a long space of time) and the *Channel* is deeper. But one heap or ridge of *Sand* may cause the River to run through another *Channel*, and the former to be dried up, yet it taketh not away the *River*, except the *Fountains* or *Branches* of it be obstructed: Therefore it is true, that neither the *Nile*, *Tanais*, *Albis*, or the *Rhine*, or other *Rivers*, always flowed, or shall perpetually flow, but that there was *earth* before, and shall be afterwards where they now flow.

Proposition VI.

Lakes are dried up and changed into Land.

Lakes dried up and changed into Land.

1. If that a *Lake* be constituted from *Rivers* that flow in, that mutation is made by the abduction, withdrawing, or cessation of the *River*, and also by evaporation.

2. If that a *Lake* receiveth *waters* by a *subterraneous passage* from the *Ocean* or *Sea*, there will be a mutation of that *Lake* after that those *subterraneous passages* are obstructed; and so *Lakes* are first changed into *standing Pools* and *Marishes*, then at length into dry *Land*. *It is evident*, saith *Aristotle*, *that because a force of* waters *hath brought in* Mud, *or something of that sort*, (he speaketh of Lakes made of *Rivers*) *therefore standing Pools are made*, *and the* earth *is dry*, *and that their* water *being left and standing*, *in succession of time it is exsiccated*, *and altogether vanisheth*. So the *Lands* that touch upon the Lake *Mæotis*, by the Soil brought down by the *Rivers*, are increased so much, that *Ships* now, far less then those about 60 *years* since, for *traffick* sake, enter into it. There are many examples found of small *Lakes* changed into dry *Land*, especially in *Holland*.

Proposition VII.

Streights are exsiccated and changed into Isthmusses or Continents.

Streights

That happeneth, when that by reason of the continual sinking of the *Terrestrial matter* made in a long time, the channel of the *Streight* is become so high, that it denieth a passage to the *Sea*.

So it is very probable that the *Isthmus* between *Africa* and *Asia*, was a *Streight*, by which the *Mediterranean* and *Red-sea* were conjoyned, as we shall shew in the following *Proposition*. In many *Streights* at this day, the *Altitude* of the *Sea*, and the *Altitude* of the *Channel* is found lesser than in former time; which is a certain token that those *Streights* shall have no *water* in them in the time to come, and shall be changed into a dry *Isthmus*. So the *Streight* through which the *Atlantick Ocean* maketh a *Gulph*, which the *Hollanders* called *Snyder-zee*, and the *Texell*, at this day receiveth no larger landing *Ships*, and the depth of the *Sea* is every year found lesser, and the *Land* higher; therefore where the *water* is at the *Texell*, there, after some Ages, will be dry *Land*. Concerning the *Vlier*, the same in time to come will also happen.

Proposition VIII.

The Bays or Gulphs which the Ocean maketh between the Mid-lands, in course of time do become dry places.

Bays or Gulphs in time do become dry Land.

This is done by a double cause; 1. If that the *Streight*, by which the *Bay* is conjoyned to the *Ocean*, becometh an *Isthmus*, or else be stopped by *Sand* and *Gravel*, which is done in progress of time, as we have said in the preceding *Proposition*: For by this cause the *Bay* of the *Ocean*, and a part or member of it shall be cut off from the *body*, and shall become a *Lake*; and then a standing *Pool* and *Marish*, and by exsiccation become *earth*, and no *water* shall be seen there.

2. If that the very *Channel* of the *Bay* become higher by reason of the *Rivers* flowing into it, and carrying *Sand* along with it, that it in time cannot receive the *Sea*; so by degrees the *Sea* will recede from the shoars of that *Bay*.

Therefore the *Mediterranean*, the *Baltick*, the *Red*, *Persian*, and other *Seas* that are *Bays* of the *Ocean*, will cease in time to be *Seas*, and will be changed into *Lands*, which shall be fully proved in the following *Proposition*.

Pro-

Proposition IX.

The Ocean forsaketh some Shoars or Coasts, so that it becometh Land, where the Ocean formerly was.

Where the Ocean formerly was, is now Land, by its forsaking the shoars.

That happeneth for these causes; 1. If that the force of *water* be broken at the *shoars* by *Rocks*, here and there on the Coasts or Clifts in the Sea: for that force being broken, the *Terrestrial parts* of the *water* subside and sink, and augment the *Altitude* of the banks of *Sand*; whence it cometh to pass, that the *impetus* of the *Ocean* is more and more broken, and therefore more *Terrestrial* matter subsideth: so that the *ridges* being augmented, they exclude the *Ocean*, or make the Channel more shallow. 2. It conduceth much to the Augmentation of the *shoars*, if that the shoars be *sandy* and *stony*, that the *Ocean* runing by, can separate or take away little with it: so that when it can take away nothing, it always leaveth some *particles*, that in progress of time the *shoars* become more high, and force or stop the *Ocean* from its accustomed place. 3. If that another adjacent *shoar* hath less solid Earth, that is light and full of *Caverns*: for the *Ocean* carrieth the dissolved and broken parts of *Earth* to the vicine *shoars*. 4. If that great *Rivers* discharge themselves by the shoar into that *Sea*: for these *Rivers* carrying with them much *Sand* and *Mud*, or *Gravel*, when that they arrive to the *mouth* and *shoar*, where they endeavour to exonerate themselves into the *Sea*, they leave it, partly because the *Channel* is there more broad, and partly, because that the *Sea* resisteth the flux of them: and this is chiefly observed in *Regions*, which *Rivers* overflow every year. 5. If that frequent *Winds* blow from the Sea to the *shoar*, and the *shoar* be rocky and firm, not *sandy*. 6. If that the *flux* of the Sea be swift and vehement, and the *reflux* slow and gentle; for the gentle *reflux* taketh not away the matter that the swift *flux* brought, but suffereth it to sink. If that the *shoar* descendeth obliquely into the Sea for a long space, and bend not down directly and perpendicularly: for so the violence of the Sea decreaseth, and leaveth the matter behind.

The Land of *Ægypt* caused by the *Nile*.

There are many places of the *Earth*, which it is evident were formerly taken up by the *Ocean*. Where *Ægypt* is, in time past was the *Sea*, as is proved by the testimony of the *Ancients*, and by Experience at this day: For the *Nile* flowing from the remote Regions of *Æthiopia*, and every *year* entring the *Channel*, where it swelleth, it expandeth it self through all *Ægypt*, where, when the force of the River ceaseth, the *Mud* sinketh, and also the *Terrestrial matter*, which the swift course of the River brought in; and so *Ægypt* becometh higher. And before that so much matter was brought in by the *Nile*, then the Sea covered the Land of *Ægypt*; but now the *Sea* is not admitted, by reason of the height. Of this, *Aristotle* and Others are *Witnesses*; his words are these, *This place, and the whole Region of* Ægypt, *which was only made by the River, seemeth always to become more dry; and because that the* Marishes *by degrees drying up the adjacent places, began to be inhabited, the length of time obliterated the beginning of it; therefore all the* mouths *of the* Nile, *except that of* Canopus, *seem to be made by the Industry of Man, and not by the River.* Moreover, all *Ægypt* anciently consisted of a City called *Thebes*, as is very manifest; which *Homer* also declareth, who flourished (as I have said) after this Mutation: For he maketh mention of that place, as if that *Memphis* as yet had no Being, or at least not so big. *Seneca* here explaineth it more clearly: *All* Ægypt, saith he, *is made up of Mud; for (if that we may credit* Homer) Pharos *was so far from the* Continent, *as that a* Ship *with a full spread* Sail *could hardly measure or encompass it in an whole day; but it is now adjoyned to the* Continent: *for the* Nile *flowing muddy and troubled, and drawing much Mud with it, and so adding to it the former* Lands, *hath made* Ægypt *larger by an Annual increase. Hence the soil is muddy and fat, neither hath it any Intervals in it, but hath increased to a solidity.*

Ganges,

The Rivers *Ganges* and *Indus*, by their Inundations, both cause also Land.

Ganges, and *Indus* in *India*, both famous Rivers, have caused the same by their Inundations that the *Nile* hath; also *Rio de la Plata* in *Brazil*. And it is probable, that *China* was generated, or at least augmented after the same mode, by reason that a violent River, which they call the *Yellow River*, flowing from *Tartary* into *China*, often overflowing (although not in an Anniversary time,) hath so much *Sand* and *Gravel*, that it maketh the third part of its *water*.

These *Examples* demonstrate the cause laid down in the fourth place, *viz.* why Rivers should cause the Sea to forsake the *Shoar*: but the *Sea* it self is also oftentimes the cause of its departure in divers Regions, *viz.* whilst that it carrieth and layeth down the matter, by which the *Channel* and *Shoar* acquire the greater Altitude, and admit not the approach of the Sea: so *Holland*, *Zeland*, and *Gelderland* were made; for that the *Ocean* in time past possessed it carrieth and layeth down the matter, by which the *Channel* and *Shoar* acthese Countries, is known both from Ancient *Histories* or *Monuments*, as also from the quality of the *Soil* it self. The *shells* of *Fishes*, found on the *Clifts* or higher parts of *Gelderland*, not far from *Noviomagus*, do sufficiently testifie the same; as also *shrubs* and *cuzey* matter found in the profundity of the *soil*: Add, that the *Sea* is higher than the *Land* of these Regions, and hath overflowed it, and would cover it again, if that it were not obstructed by banks of *Sands* and *Ramparts*. Yet there are some that say, they suppose that *Holland* and *Zeland* were brought from the *Rhine* and the *Mosa*; which is not improbable.

Proposition X.

To shew the Generation of Sandy-banks in the Sea, and elsewhere.

The generation of Sandy banks.

We term those banks of *Sand*, that are elevated above the *Channel* of the River to that height, that they hinder the passage of Ships. Neither do they differ from *Rocks*, but that their parts do cohere and are condensated; but the *Sand-banks* do not consist of parts very coherent. But these words are oftentimes confounded.

The *Sand-banks* do either lie in the *Channels* of Rivers, (as many are in the *Wolga*, and the *Albis*,) or at the *mouths* of Rivers, (which is frequent, as in the *Wolga*, and the *Albis*,) or on the *Sea-shoar*, or amidst *Seas*. The mode of the generation is the same, by which we have said in the foregoing *Propositions*, that the *Channels* of Rivers are dried, and the *Sea* forsaketh the *shoar*; for so oftentimes it cometh to pass, that the *Ocean*, before that it leaveth part of the *Earth* altogether, first generateth this ridge of *Sand* not far from the *shoar*, and so by degrees retreateth back, and these banks become parts of the *Continent*. After the same mode it hapneth in the *Channels* of Rivers, before that they are wholly dried and forsaken by the *water*. The most frequent cause is, when Rivers are augmented by *rain*, or dissolved *snow*, and so run violently; for then where their motion is more vehement, and *Channel* more narrow, they eat off the *mud* and *sand* from the *shoars* or some *banks*; also the substance of the *bottom* is advanced and lifted up, and is carried by the impetuosity of the *River*, until it come to a more large and ample *Channel*, and be removed from the *motion* is remiss, and then the *Terrestrial parts* subside, and *Sand-banks* are generated: of which many are found in places where there are broad *Rivers*, but none almost in narrow.

Neither is there any mischief, which taketh away more splendor from the most flourishing and rich *Empories* or places of *trade*, without any hope of recovery, or bringeth greater detriment to Ships. That we may pass over those Ancient *Cities*, now for many Ages buried in oblivion, we have Examples before our eyes of *Staveren* in *Friezland*, *Arnuyen* in *Zeiland*, of *Dort* in *Holland*, *Antwerp* in *Brabant*, and *Stade* in the Bishoprick of *Bremen*.

Nothing took away the power of *Traffick* from these *Cities*, (which was the cause of all their *splendor* and *riches*) but the banks of *Sand* arising in their Rivers, or the Neighbouring Seas.

Neither

Neither is there almost any *Empory* that is Maritimate, that is free from the fear of these *Sand-banks*. Those that are in the *Albis* or the *Elbe*, have destroyed many *Hamburgian* Ships, that have escaped the grand storms of the *Ocean*. The same is manifest in others, to him that considereth, especially in the *Texel* and *Ulie* of *Amsterdam*.

They are discovered in a great number on the *Sea-coasts* of *Flanders* and *Friezland*, and the suff of the Sea going down, many of them are discovered to be part of the Continent; for the Channel interceding hath then little *water*, and admitteth of no *sailing*. The famous, or rather infamous amongst *Mariners*, by reason of *Shipwrack*, are those that are found in a great number in one part or place of the Sea. They are these; 1. The *Sand-banks* of *Brazil*, *Abrolhos de Brasilia*, *Het riff van Brasilian*, also *de Droogte van Brasil*. They lie from the Coast of *Brazil* for the space of 70 *miles*, which the Mariners that sail to the *Indies*, ought to avoid with great diligence, whilst that to shun the calm of *Guinea*, they sail towards *Brazil*: yet they come as near to those *Sands* as they may, that they may have the greater *Wind*; but they must be cautious, that they be not carried between *Brazil* and the *Sands*. 2. The *Sands* of St. *Ann*, not far from *Guinea*, six *degrees* at the elevation of the *North Pole*. Ships being carried upon these, come not off without great danger and labour, and are detained for many daies, when that *Seamen* suppose that they have passed beyond them: For these *Sands* are not continual, but they are disjoyned by broad and deep *Whirlpits* or *Gulphs*; so that in a small distance, here is a depth of about eight *fathom*, by and by about *two*. 3. The *Sands* between the Isle of *Madagascar* and *Arabia*, called *Baixos de India*; they are sharp *Rocks* of *Coral* of divers Colours. 4. The *Sands* of *China*. 5. The *Sands* of *Flanders*. But more may be seen in *Geographical Sea-charts*. We have declared one mode of the generation, by which these *sands* have an Original, by sinking of the Sandy matter, which the Sea carrieth with it. The second mode to be adjoyned to this is, by which such Sands can, or may have a Being; to wit, if that the Sea overflow the Earth, in which the *hills* and *risings* are *sandy*, (for then those *hills* are, or shall be called, *Sand-hills*:) they are discovered in a large tract; but the Land it self is more low.

If therefore the Sea by an irruption, should inundate and cover those *Lands*, then those *Hills* would be *Sand-banks*: so we must judge of others.

Therefore at the Mouths of Rivers, *Sand-banks* are most frequent, because the *Channel* is there broader, and therefore the *impetus* of the efflux of *Rivers* is there diminished; and therefore the matter sinketh, which the violent *Flood* brought with it: Also the *waves* of the *Ocean* repel the *Waters* flowing from the Mouths of the *Rivers*, whence all the force ceaseth.

And it is worth our labour to distinguish, and consider these two modes of the generation of *Sand-banks*.

Proposition XI.

To conjecture, whether the Sand-hills, *which lye in the* Sea, *not far from the* Continent, *shall be part of this future Continent.*

Of Sand-banks or Hills in the Sea, not far from the Land.

We have said in the former *Proposition*, that these *Sand-banks* are generated two manner of ways; one truly by the subsidency or sinking of the *Sand* into the Sea, the other by denomination, *viz.* all *Hill*, the *water* encompassing and overflowing the *Earth*. If that they are generated by the former mode, and are found to increase more and more, it is a sign that they will joyn to the *Continent* of the *Earth*; that is to say, that the *Channel* of the Sea will be dried between these *Sand-banks* and the adjacent *Land*: But if that the *Sand-banks* are generated after the second mode, then we may conjecture, that those *Sand-banks* will not so easily be conjoyned to the adjacent *Earth*; but that the Sea rather will farther overspread the Land.

Proposition

Proposition XII.

Islands are produced in the Sea *and* Rivers *after the same mode that* Sand-banks *are; yea Islands may proceed from* Sand-banks, *yet they are also made after another mode.*

the genera-
on of *Islands.*

For if that in any part of the Sea, so great a quantity of *Sand, Gravel, Mud,* and *Ouze*, be aggregated in progress of time, that it becometh higher than the Sea, it will become an *Island*; which is the first Mode. Then by the second *mode*, If that the Sea breaking into the Land, overfloweth only the lower parts, but not the higher, and the *Hills*, those will be *Islands*. And by this latter Mode it is probable, that those *Islands* were generated, or had original, which arise to an huge *Altitude*; as St. *Helena, Ascension*, and the like; especially those which are *rocky* and *stony*.

cilia separa-
ed from *Italy*
y the Sea.

Hitherto appertain *Islands*, which the Sea hath cut off from the prominent Lands: So *Writers* testifie, and the *Poets Verses* are known, that *Sicilia* was separated from *Italy* by the violence of the Sea.

By the first Mode, *viz.* the subsidency and congregation of many *Terrestrial particles*, the Islands of *Zeland*, *Denmark*, and *Japan*, had their original. The same seemeth to have been the original of the *Molucco* Isles: for if that you dig on the Plain to a small depth, you shall meet with an abundance of *sand* and *shells*.

other Isles se-
arated from
he Continent
y the Sea.

The Inhabitants of *Ceiland* relate, that the *Isle* was separated from the procurrent of *India*, and it is very probable so. The Isle of *Sumatra* is supposed formerly to have been united to *Malacca*.

The *Isles* of the *Maldives* in times past was were said to adhere to *India*, and were a continuous Continent; yet at this day they are far in the Sea, and divided into an innumerable many *Isles*, (esteemed about 1100,) neither ought we to doubt of it, seeing that narrow *Euripuses* pass through every two of these *Maldivian Isles*, so that in some places they exceed not *four* or *five* Ells; but in progress of time many of them unite into one, the *Euripus* being diminished, and all of them at length will conjoyn in one oblong *Island*. Yea all the *Oriental Isles*, scituate between the Continent of *Asia* and the Land of *Magellan* in a great number, seem to arise from the violence of the *Ocean*, the Land being separated: For the *Pacifick Ocean*, in the *Torrid Zone*, is moved by a perpetual motion and force from the West to the East, that is, from *America* to those *Oriental Isles*: Moreover, a perpetual *Wind* greatly augmenteth the violence of the *Ocean* towards that *Oriental quarter*. Therefore it is not improbable, seeing that all these *Islands* are in the *Torrid Zone*, but that *Asia* formerly did adhere to the *South-land*, or that of *Magellan*, in a continual tract of Land: then at length the violence of the *Ocean* eat off, and separated sometimes here and sometimes there, until that a way being made on every side, it was conjoyned to the *Indian Ocean*, and made so many *Islands*, as that we stand amazed at this day, in that *quarter* being distant a very small space, *Java*, *Celebes*, *Borneo*, *Madera*, *Amboina*, &c.

Concerning the *Islands* in the Gulph of *Mexico*, as also in the Streights of *Malacca* we conjecture altogether the same.

The *Isles* of the *Ægean* Sea, whether they had a Being from the divulsion made by or from the Sea (the Sea flowing from the *Euxine* Sea, and the *Mediterranean* raising up of contrary floods,) or after the former *mode*, by a subsidency of the *Terrestrial matter*, which the *Propontis* had carried from the *Euxine* Sea, as yet I doubt: It is more probable, that a divulsion was made; and peradventure that famous Inundation of *Deucalion*, here also exercised its force. It is certain, that the Isle *Eubœa*, at this day called *Negropont*, did formerly adhere to *Greece*, as Authors of no mean Credit do relate; for so small an *Euripus* interfloweth, that it may be joyned by a Bridge.

We

We shall shew, that *Islands* may be made of *Sand-banks* by many Examples. So the Islands in the River *Nile*, and in the River of St. *Laurence*, were formerly *Sand-banks*. *Rivers* make Islands after another manner, when that they send forth a branch, which they receive into themselves in another place, as may be seen in the *Wolga*, *Tanais*, and other places. That this was not done by Nature, but by the Industry of Man, we ought not to question: the River *Ob* doth the same.

These two Rivers, *Rengo* and *Coanza*, made the Isle *Loanda*, scituated on the Coast of *Africa*, which exonerated themselves into the *Sea* in that place; by reason that they bring great store of *Mud* and *Rubbish* with them, they falling with an exceeding force from Mountainous places, so that they left this, and as yet the same in their Inlets, and so in course of time made the Island *Landii*; first made a *Sand-bank*, now most fertile and likewise populous: And so we suppose that many *Sand-banks* formerly made the *Islands*, scituated at the Coasts; although that some were also caused by a divulsion made by the Sea, as *Norway*. And it is more probable, that this is the mode of generation of *Islands* in stony and rocky Isles: But in the *Indian* Sea, *Islands* may have an original both by divulsion and subsidence, or sinking of matter; because that whilst it forceth away, it also eateth between the middle of the *Earth*, which at length it putteth in another place; unto this many furious *Winds*, which are very frequent in the *Pluvial months* from *May* to *September*, do much conduce: For by these the *Sea* is mightily troubled, so that the *Sand* and *gravel* is separated from its bottom, and from other Regions, which matter is forced on the Coasts of *India*. So the Mouths of the Port of *Goa*, by the violence of the *Winter-winds* (from *May* to *September*) are so obstructed with congested heaps of *Sand*, that they hardly afford a passage to smaller *Vessels*. So these heaps of *Sand* shut up the Port of *Cocin*, on those Months, so that neither small nor great *Vessels* can pass.

For a continual *Rain* on the Mountain *Gatis*, and a frequent *Ecnephias* or impetuous wind from a *Cloud* breaking forth with an abundance of *water* from the *Clouds*, which are beheld to hang as it were on the top of *Gatis*, send forth such an abundance of *water*, and with that violence, that it carrieth much *Sand* with it to the *shoar*, where the *Ocean* resisteth; which *Sand*, when that the *Winter* endeth, is taken away by the *Ocean*, and the *Ports* are opened.

There are some *Lands* so nigh the *shoar*, that the flux of the *Sea* doth make them *Islands*, and in the reflux they are in appearance part of the *Continent*; and if that the interposed Channel acquire a greater *Altitude* in progress of time, at length the flux of *water* is excluded, and the *Islands* become part of the Continent without reciprocal mutation.

And also the *Nile* overflowing *Ægypt* every *year*, causeth the *Cities* and *Hills* of *Ægypt* then to seem *Islands*: So the River *Wolga* doth so increase in the Months of *May* and *June*, that it covereth the *Sands* and *Islands*, and many of the *Isles* that adjoyn unto *India* become *Sands* in the *Pluvial Months*, where that the *Nile* and the *Ganges* do overflow the *Regions*.

Proposition XIII.

There is yet another Mode, besides the two already related, by which Islands have a Being or Original; viz. for the coherent Earth suddenly to be carried from the bottom of the Sea to the superficies.

Another Mode by which Islands have an Original.

Others suppose this Mode, and that not undeservedly, to have proceeded from the fabulous *Grecians* and *Poets*: But *Seneca* a grave Author relateth, that the Island *Thracia* in his time sprang up in the *Ægean Sea*; whilst that the *Mariners* looked on. Although therefore that very few Examples of such productions of Islands are to be found, yet it ought not to be supposed impossible; for it may be, that a *porous*, *spongy*, *sulphureous Earth* doth exist (as there is a various difference and mixture of light *Earths*,) which even now hath increased to a notable *altitude*, yet so, as that it yet remaineth beneath the *superficies*

perficies of the *water*. Now, if that such a *Sand* or *Earth*, adhere less firm at the bottom of the *Sea*, it may be separated by the violence of the *Sea*, because that it is little lighter than the *water*, or almost of the same levity, therefore it will ascend to the *superficies* of the *water*, and suddenly an *Island* will seem to spring up: or a *Spirit* or *Wind* included in the *bowels* of the *Earth*, without any violence of the *Sea*, and endeavouring to break forth, may send forth such an Island above the *Water*: for great is the force of *Winds* included in the *Earth*, and requiring a larger space, as is evident from *Earthquakes*. By which it is manifest, that sometimes *Mountains* are sent forth of the *Earth*, and sometimes swallowed up: the same is manifest from *Warlike Mines*, where the *Wind* breaketh up great *Towers* and *Walls* and carrieth them into the *Air*.

If that therefore such an *Island* of a sudden springing in the *Sea* adhere to the bottom of the *Sea*, we must necessarily say, that it was forced upwards by the violence of some *subterraneous Wind*: As some write, that *Mountains* sometimes are thrust forth of the *Earth*; but if that it no longer adhere to the bottom, as well the *Wind*, as the violence of the *water*, may separate it from the bottom; so that at length, by its own levity, it is carried upwards to the *superficies*.

Proposition XIV.

Whence another doubt doth arise, *viz.* whether that there be certain *Islands* that swim on the *Sea*, as *Thales* supposed the whole *Earth* to swim on the *Ocean*? For the Opinion of *Thales* it is sufficiently refuted, seeing that the *Channel* of the *Sea* is found continuous to the *Land*: but reason perswades us, that there may be *swiming Islands*, if that the Land be light and *sulphureous*. *Seneca* addeth Experience; for he saith, *that he saw the Isle* Catylias *swiming, which had Trees, and brought forth Graß and Herbs; that the* water *sustained it; and that it was not only driven hither and thither by the* Wind, *but also by the* Air; *and that it continued not in one station either by Day or by Night.* Moreover there was another Island in the Lake *Vadimon*: another in the Lake *Station*. So the Ancients relate, that *Delos* and all the *Cyclades* formerly swam in the *Sea*. Neither may you object, why do not those *Islands* swim at this day? For unto this the Answer is ease, That such a *swiming* cannot continue long; for seeing that those *Islands* almost touch at the bottom of the *Sea*, whilst that they are moved hither and thither, they are carried more or less elevated to the *Sands* or *Channels*, especially if that they come in the midst between two *Sands*, that motion is stopped, and other collected *Earths* are united with this *Sand-bank* or *Channel*, and so of *swiming Islands* they become firm. In *Fondura*, a Country in *America*, at this day is a Lake in which are many *Hills*, which are moved to and fro with the *wind*.

In the great *Lake* of *Scotland*, called *Loumond*, is an *Isle* that swimeth, and is moved about, although that it be apt for Pasturage, as *Boetius* writeth.

Hitherto we have treated of the generation of the *Lands*, or of the Acid part of the *Earth* that is extant on the *superficies*: we shall now consider how the *Ocean* and *Waters* may change their places, and possess new.

Proposition XV.

Rivers possess certain tracts of Land, which they possessed not before, and that for divers reasons.

Certain tracts of Land which Rivers possess, which they possessed not before.

1. When that they first arise from their *Fountains*, and receive a *Channel* either from *Nature*, or by *Art*, of which we have spoken in the *fifteenth Chapter*.

2. If that a River maketh another *Channel* for it self, or sendeth forth a branch from it self; which is most commonly done by men, *viz.* that they may bring part of the *Rivers* unto *Cities*, or into another *River*: Examples of which we have alledged in the forecited *Chapter*.

3. If

3. If that *Rivers* more and more possess the *banks* in progress of time, which happeneth, 1. If that the *Channel* become higher from the sinking down of the *Earth* or *Sand*. 2. If that it eateth off the sides of the Bank by its swift course. 3. If that it be augmented by another *River*, and by an abundance of *Rain*, or an *Exhydria* or impetuous *wind*, accompanied with a mighty fall of *water*.

4. If that they overflow the *Earth*, which if not going back again, but do more and more augment, they become *Lakes*; or if they return to their Ancient *Channel*, the *water* being effused into the *Fields*, becometh a *Marsh*, if that there be great abundance of it.

Corollary. It is probable therefore then, that there was a time in which those tracts of *Land*, which now the *Rhine*, *Elbe*, and the *Nile* possess; as also other *Rivers*, were dry, and possessed by the *Earth*.

Proposition XVI.

Lakes, Marishes, and standing-Pools, occupy parts of the Earth that before they possessed not.

Lakes, Marishes, and Pools, possess parts of the Earth, which formerly they did not.

1. When that they first spring up, and are augmented in progress of time; of which we have spoken in the *fifteenth Chapter*.

2. If that abundance of *Rain* fall.

3. If that *Rivers* bring store of water with force into the *Lakes*.

4. If that the *Channel* become more high.

5. If that the *Lakes* being agitated by often and more vehement *floods*, by degrees do more eat the *banks* and cover the *land* with *water*. So the Lake of *Harlem* within *thirty* or *forty years*, hath extended beyond its former Bank, about the space of the twentieth part of a *mile*.

Corollary. Therefore it is probable, that there was a time when those tracts of *land*, which now the Lake *Zaire*, *Lemanus*, *Parina*, *Harlem*, *Mæotis*, or the *Marishes* of *Westphalia*, and all others formerly possessed, were dry *Lands*.

Proposition XVII.

The Ocean possesseth part of the Land, which formerly it did not possess.

Land possessed by the Ocean, which formerly it did not possess.

This happeneth after various manners; 1. When that breaking through the middle of the *land* it maketh *Streights* and *Gulphs*; as the *Mediterranean*, the *Arabian*, that of *Bengala*, *Camboja*, and such like: So the *Streight* between *Sicily* and *Italy*; between *Ceilan* and *India*, between *Greece* and *Eubœa*, between *Manilla* and *Magellan*, and also the *Danish*, &c. Neither is it improbable, but that the *Atlantick Ocean* was so generated, and that *America* was so divided from the Old World, or at least from *Europe*, which some do the more easily embrace, that they may thence only deduct the Original of the *American Nations* from *Adam*. Indeed the *Ægyptian Priests* related unto *Solon*, about six hundred *years* before *Christ*, (as you may see in the Dialogue of *Plato*, termed *Timons*,) that there was formerly opposite to the *Herculean Streight* of *Gibralter*, an *Isle* bigger than *Asia* and *Europe* together, called *Atlantis*, and that part of it afterwards by a great *Earthquake*, and a great *deluge* of one *day* and one *night*, was swallowed up in the *Ocean*. From which Narration we may collect, that in former times amongst the *Ægyptians* there was a fame, especially amongst those that were Learned, of the separation of *America* from our *World*, made many Ages before. But it is far more likely, that the North part of *America*, in which is *New France*, *New England*, *Canada*, and the like, did in former Ages adhere to *Ireland*. The *Ancients* write, that the *Streights* of *Gibralter* were dug through by *Hercules*.

2. When with a violent *Wind* the *Ocean* is forced, and overfloweth the *land* by breaking through, or over the *banks* that are made by *Nature* and *Art*. There are many Examples of the *Inundations* of the *Ocean*; as formerly in *Thessaly*, and not long since in *Friezland* and *Holsatia*.

3. When by reason of the same causes, it penetrateth the firm *Land*, and maketh *Islands*. By this Mode we have said in the former *Propositions*, that it is likely that that *Sea* had its original which interfloweth between those innumerable *Oriental Isles*, and that which floweth between the *Maldivian Isles* and *India*, and also between the Gulph of *Bengala* and *Cambaja*.

4. When it by degrees eateth and consumeth the *Coasts* or *Shoars*, and so in progress of time covereth some parts of the *shoar* and of the adjacent *land*. So the *Baltick Sea* invaded the Coasts of *Pomerania*, and destroyed the famous Town or Empory of *Vinetam*: so taking away the *Islands* from the Coast of *Norway*, it let in it self between these *Isles* and the *Continent*. So the *German Ocean* hath possessed the *shoar* of *Holland*, near the Village of the *Catti*, in a great space of *Land*: so that the Ruins of the *Brittish Tower*, formerly a *Fortress* or *Castle* of the *Romans*, now lieth inconspicuous, being covered with *water* far from the *shoar* in the *Sea*. The *Ocean* hath taken from the North part of the *Island* of *Ceilan* the space of 20 *miles*, so that at this day it is far lesser than it was. And there are many more Examples of the like kind.

Corollary. From hence we may collect, that those places of the *Earth*, where now the *Ocean* is, in times past were *Land*; and again shall be *land*, to wit, if that we do suppose, that the *earth* hath continued so many thousand years, and shall yet continue. Concerning this Argument you may consult *Aristotle* in the first Book of his *Meteors*, and the *twelfth Chapter*; and *Stevinus* in his *Geography*. If that you demand, how the *Ocean* shall occupy the place of *Mountains*, that then the Mountains shall not be covered by the *Sea*, but shall then become either *Rocks* or *Islands*, other *earth* being forced unto them; that is, confirmed by the example of many *Islands*, yea almost of all; because that Experience testifieth, that almost all *Isles* have *Mountains* in the midst, as *Ceilan*, *Sumatra*, *Java*: furthermore, some are nothing else but *Mountains*, as St. *Helena*, *Ascension*, the *Hesperides*, and the like. Seeing therefore that those places of the *Ocean* in which these *Isles* lye, in Ages to come shall be, or already have been *land*, then indeed the *Mountains* of these *Isles* shall be Mountains of the *Continent*.

Proposition XVIII.

Whether it is possible, that the whole superficies of the Earth should become dry, or Land? Or, that it should be all liquid or covered with water? That the most parts should be of an Earthy superficies at one time more than at another, or that more should be covered with water.

Of the whole Superficies of the Earth, whether it may become all Land or all Water.

1. That sometimes the *land* should possess a greater part of the *superficies* of the *Earth*, than at another. Also that which is a consequence to the former, that *water* at one time should possess the greater part of the *superficies* of the *Earth*, more than at another, hath been sufficiently shewed in the second *Proposition* of this *Chapter*.

2. Whether the *Water* or *Ocean* can cover the whole *Earth*, so that there shall be no *Earth* or *Island* above it, and so cause a Universal *flood*? Unto this I answer, That a mode may be conceived and explained, by which it may naturally be done; but yet by reason of the compaction of the *Lands*, and *Altitude* of the *Mountains*, it is scarcely probable that any such thing will be. The *mode* by which it may be done, is the same with that explained in the second *Proposition*: For if that the *Ocean* continually eateth the *land* from the *shoar*, and layeth it down in the profoundest parts of its Channel, and do this in a perpetual course of time, then it shall take away all the Lands of the *superficies*, or extant parts, and it self shall cover all the *Earth*. And the *Mountains* shall either be made Rocks, or shall by degrees sink and fall, their *Foundations* being consumed by the vehement force of the *water*. But this may be done more easily, if that we will follow their opinion, who attribute a greater height to the *Ocean* than to the *Land*. But we have in the precedent discourse sufficiently confuted that opinion.

3. Whether

3. Whether that the *Land* can so occupy the whole *superficies* of the *Earth*, so that all the *water* and the whole *Ocean* may be contained in the Caverns of the *Earth*, or in the *subterraneous passage*, and covered by the *Earth*? Unto this I answer after the same manner, that it is not impossible, and that a Mode may be conceived by which it may be done; but yet scarcely ever shall be. Now there is only one Mode to be conceived, *viz.* that if now there are or may be so many cavities within the depth of the *earth*, within the which the *Ocean* may be contained: for neither hath it been demonstrated by any, as hitherto, that such cavities are not in the depth of the *earth*; and if they be not, but that they may be done, 1. by the violence of the *earth*, and 2. by *subterraneous winds*.

Proposition XIX.

Why, in the middle of the Ocean, no Islands are found, and no abundancy of Isles, but most at great Continents, or great Islands?

No Isles found in the middle of the Ocean.

Of the truth of this Proposition we ought not to doubt, for experience manifestly proveth it. In the midst of the vast *Pacifick Ocean*, between *Africa* and *Brasilia*, besides the Isle of *Sancta Helena*, and that of the *Ascenson*, few are found: but about the *shoars* of the *Continent*, or in the *Ocean*, not far from the *Coasts* of the greatest *Continents*, all *Islands* are (those few only excepted which I have spoken of): this may especially be taken notice of in those numerous ones that we tearm troops of *Isles*, which are all near the *Continent*. The troop of the *Isles* of the *Ægean Sea* adjoyneth to *Europe* and *Asia*; the *Hesperides* to *Africa*; the *Maldivian Isles* to *India*; as also all the *Indian Isles* between *Asia* and the *South Continent*; only the *Flandrian Isles*, or *Azores*, seem to be situated in the midst of the *Ocean*, between the *old World* and *America*, although that they are more near to that than to this.

The cause of this *Phenomenon* or *situation* of the *Islands* without doubt is, that they had a being from the irruption of the *Ocean* into the *Continents*, by which violence the *Lands* of the *Continents* were separated: but because the *Altitude* of the *Ocean* was not so great, that it could cover all the Lands intercepted, thence here and there between the *Continents*, and at the *Continents*, troops of *Islands* did arise: also it is likely that some of them were generated by another mode, *viz.* because the *Ocean* cannot carry the *Lands* separated, and cut off any long space with it, but suffereth them by degrees to subside not a long distance from the *shoars*, which subsidency or sinking continued for many Ages, at length caused *Isles*: therefore in the middle of the *Ocean* are few *Islands*. 1. Because that place is more remote from the *shoar* than that any of the eaten off parts should be carried thither. 2. Because that the commotion and force of the *water* is greater there, which moveth the *earth* of the *Channel*, or rather promoteth the depth, than suffereth *Islands* to be generated there. 3. Because there are no *Continents* there, therefore neither can troops or heaps of *Islands* be according to the first *mode*, by which we have shewed such heaps of *Isles* to be produced; yet in times past, when that the middle of the *Ocean* was not where 'tis now, it is not unlikely that such *Isles* were here, and by degrees were swallowed by the *Ocean*.

OF

OF

Abſolute Geography.

SECT. V.

Containing an explication of the Atmoſphere, and the Winds. In three Chapters.

CHAP. XIX.

Of the Atmoſphere and Air.

Propoſition I.

From the parts of the Earth, as well dry, as moiſt, or from the Earth and Water, vapours and fumes do continually exhale into that ſpace, which is about the Earth.

Of vapours and fumes.

THE Cauſe is twofold; firſt, the Celeſtial heat of the *Stars*, eſpecially the *Sun* and *Moon*. The other is a *Terreſtrial heat*, or *ſubterranean* or rather *terreſtrial fire*, of which is admixed with the parts of the *earth*: For we ſee that almoſt all *bodies*, the leaſt *fire* being moved towards them, ſend forth a fume. Seeing therefore that both the *Celeſtial* and *Terreſtrial heat* is naught elſe but a certain *fire*, therefore it is alſo neceſſary that vapours and fumes ſhould be advanced by it from the parts of the *earth*. So the truth of the *Propoſition* is evidenced *à priori*; Experience alſo confirmeth the ſame. For thoſe that travel in the night time, eſpecially when the *Moon* ſhineth, and that towards the *water*, diſcover many vapours to wander and be advanced about the Superficies of the earth. Alſo it is vulgarly known, that in the *day* the *Sun* doth raiſe many *vapours*: alſo when that a *miſt* ariſeth upwards, which is a certain token of *rain* to follow,

Pro-

Propoſition II.

The Atmoſphere is a ſpace about the whole earth, in which the exhalations raiſed from the earth are always preſent, And it is uncertain whether that any thing or body elſe be contained in it beſides theſe exhalations.

Of the Atmoſphere.

It is alſo taken for the exhalations themſelves about the whole *earth*. There is no ſmall controverſie amongſt *modern Philoſophers*, concerning the *body* which conſiſteth about the *earth*. For many *Mathematicians* of ſound knowledge determine, that there is nothing beſides exhalations elevated from the earth, and therefore they take the *Atmoſphere* and *Air* for one and the ſame, and immediately after the *Atmoſphere*, place the *Ætherial ſubſtance*. But other *Philoſophers* ſuppoſe, that beſides theſe exhalations in the ſpace about the *earth*, that there is a certain peculiar and ſimple *body*, which they call *Air*, although that they freely grant, that exhalations may be changed into *Air*, and contrariwiſe into *clouds* and thick *vapours*. The ſame Perſons, after this *Air* even to the Lunary Orb, place another ſubtile thin body different from the *Æther*, which indeed they tearm *Fire*, but they confeſs that it is leſs properly done, and that it doth not agree with our fire; for it is a calid ſubſtance (not burning) dry and very ſubtile, not to cauſe the refractions of the *rayes* of the *Sun* and *Stars*, which yet they will have to be done in this *Air*. Thoſe being well conſidered, theſe two opinions of the *Philoſophers* ſeem rather to differ in *words* than in *matter* it ſelf. For as for the *Air*, becauſe that they grant it ſo groſs, that a refraction of *rayes* may be made in it, and that it may be generated from exhalations by a light mutation, the *Air* ſeemeth nothing elſe but a ſubtile exhalation, although it was not exhaled from the *earth*. As for the Sublunary *Fire*, when that they confeſs that it is ſo improperly tearmed, but they affirm, that it is ſo tenuous that it cauſeth no refraction of rayes; this ſeemeth little to differ from the *Æther*. We affirm therefore, that the *Atmoſphere* and *Air* are a body about the *earth*, on which the rayes falling are refracted, (laying aſide the controverſie whence this body hath its original) which definition agreeth with the former: For neither is it likely that any *exhalations* can be elevated from the *earth* ſo ſubtile, that they ſhould cauſe no refraction or impediment to the luminous rayes proceeding from the *Æther*: yet if that ſuch be granted, we cannot know their Altitude, and whether that they be excluded from the *Atmoſphere*; which yet if that any one will ſharply urge, ſuppoſing that the little *fires* or *rayes* caſt from the *Sun* on the *earth*, again recoil to the *Sun*; he will not deny but that the latter definition is commodious: Therefore the *Atmoſphere* and *Air* are naught elſe but a contexture of many ſmall bodies which adhere to the *earth*, as a *down* or *wool* circumveſteth a *Peach*.

Propoſition III.

Sometimes more, ſometimes leſſer exhalations are drawn from the earth, eſpecially in divers places.

Of exhalations

The cauſe is, 1. The various elevation of the *Sun* above the *Horizon*, or depreſſion beneath it. 2. The diverſity of the age of the *Moon*, and its elevation above the *Horizon*. 3. The riſing and ſetting of the other *Stars*, and their conſtitution above the *Horizon*. 4. The diverſity in the parts of the *earth* themſelves; for watery and humid places do more eaſily ſend forth vapours than earthy and dry.

Pro-

Proposition IV.

The exhalations which constitute the Atmosphere, are of a divers kind (especially in sundry Regions) viz. watery, saltish, earthy, sulphureous, spirituous. The sensible compounded exhalations, or parts of the Atmosphere are divers, viz. mixed of simple particles.

Of the exhalations which constitute the Atmosphere.

The cause is, because that in the parts of the *earth* such *bodies* are of a divers sort, and are advanced by *heat*, some more easily, and other some with greater difficulty. Concerning the earthy particles some one may doubt, because that those are scarcely apt to be elevated. 1. By reason of the smalness of their *dusts*, which are light; seeing that gravity is an affection of compacted *bodies*. 2. By admixture of *sulphureous particles* which violently carry those earthy ones with them.

Moreover, that there are *sulphureous particles* in the *Air* is proved from the *fiery Meteors*, *Lightnings*, *Thunder*; and the like: yea, a *sulphureous odor* or scent after *Thunder* and *Lightning* manifestly asserteth the same.

As for the *watery parts* we ought not to question; for *saline* and *spirituous exhalations*, by reason of their tenuousness, are easily exhaled from the *earth*. Little *Animals* generated in great number and abundance in the *Air*, confirm the same.

The *Aristotelians* divide *exhalations* into two kinds, to wit, *vapours* and *fumes*. *Vapours* are generated of *water*, and easily return into the same again. *Fumes* proceed from dry *bodies*. So *Sal Armoniac* vanisheth into *smoak*, *fire* being placed under it. This also is the cause that in divers *Regions* a different *Air* is discovered. Also that it *raineth* in one place, and not in another.

Proposition V.

The least particles of the Air, and those all insensible, repell or reflect the rayes as a Looking-glass, but some of the particles of the Air being sensible and compounded, do transmit many rayes, but reflect fewer; others, on the contrary, transmit fewer rayes, and reflect more.

The parts of the Atmosphere.

Therefore the parts of the *Atmosphere* are divided into those that are opac and pellucid: these are those that transmit many *rayes*, the former are those that transmit fewer.

Therefore because that the least *particles* (both *water* and *earth*) being *Atoms*, are solid little *bodies* without any *pores*, so that they transmit no *rayes*, but repell them; because that it is very probable that a perspicuity, or a transmission of *rayes* doth require *pores* orderly placed in a body, and empty little spaces.

But the parts of the *Air* or *Atmosphere* composed of little *particles*, if that they shall have ordinate and many *pores*, they will be perspicuous and transmit many *rayes*: but if that those *particles* shall be composed or aggregated very confusedly, they will transmit *rayes* without any *pores*; thence it cometh to pass that the *Sun* discussing a thick cloudy opac *Air*, doth make it perspicuous, to wit, more porous.

Now that the least *particles* reflect *rayes*, is manifest from hence, that the *rayes* of the *Sun* in a most serene *Air* be admitted into an obscure Chamber through a narrow hole, you will see manifestly from the *particles* flying in a great number in the *Air*; that the *rayes* are reflected to the *eye* as from a *glass*. Now seeing that those *particles* are yet sensible, the same must be concluded concerning the least *particles*, and those that fly the sense.

Now

Now those, who will have humid attenuated vapours to be perspicuous, but not dry ones and smoaks, they are refuted by experience and reason. By reason, because that fumes and dry exhalations may be made equally subtile and porous, as those that are watery; but they suppose that perspicuity doth not consist in the mode or reason of the pores, but in a peculiar quality: But it is manifest by experience, because that the Air is serene, it hath more dry than moist particles; for in that new kind of Wind-gun, which is not discharged by powder or fire, but by the help of wind and air, the Air is so condensated, that it scarcely comprehendeth the sixtieth part of the former space; yet neither do they create any kind of humidity in the Gun, which must altogether happen, if that the particles of the serene Air were watery.

Proposition VI.

Exhalations do not ascend of themselves, and of their own nature upwards, but they are forced by a violent motion; or the Air is not light but heavy in a proper mode of expression.

Of exhalations

All that is to be termed grave or heavy, is moved to the Center of the Earth, except that it be hindred; but the Air doth that: for the Earth being digged up, the Air descendeth into the space made. That therefore it is carried upwards, is thus performed.

1. That heat rarifieth it to seek a greater space.
2. Because that it is forced by another vapour.

So in cold places, as in *Nova Zembla*, and with us in the night season no Mist ascendeth, but the heat of the Sun approaching rarifieth it, and causeth one part to force out and thrust forwards the other: For if that those small particles of Air were free, neither mutually implicated one within another, then at length it would be light.

Proposition VII.

The upper parts of the Atmosphere are more subtile than the lower, yet it may so come to pass, that the middle parts may be more gross and condensed than the lower parts about the Earth.

Therefore the more light parts fly to the upper place, they are more subtile and light; hence the truth of the member of the former Proposition is manifest; Now the cause of the latter member is, that the parts in the middle Air easily reunite again, and so become thicker: for the hot or calid Particles being carried up with them, have forsaken them, and the Rays refracted from the Earth, in that middle *Region*, by reason of their distance, have no force.

Thence it cometh to pass that after Rain, the middle Air is more serene, because the more thick parts are separated.

Proposition VIII.

The Atmosphere or Air being heated, possesseth more space than before; now by how much it is more destitute of heat, by so much the more it contracteth it self, and occupieth the lesser space.

The Air being heated possesseth more space than before,

This is excellently shewed by that Instrument which we call a *Thermometer*, or *Weather-glass*, because that we measure the temperature of the Air and heat by it, in hot and cold, in which we discover the Air to become more condensed, and to occupy lesser space in the Glass, by how much the Air acquireth less heat, as we shall shew in the following Proposition. Now the cause of the

Proportion is *à priore*, becauſe the calid Particles, either of the Rayes of the Sun, or of another fire, are moſt ſubtile of all the Particles of the whole world, and in continual motion. Therefore thoſe Atmoſpheres, whilſt that they are admixed, ſeparate and divide theſe Particles with a great force, and ſo cauſe more pores; and theſe little fires departing, the Particles of the Air left to themſelves unite again, or are mutually complicated within themſelves.

Corollary. Therefore the Altitude of the Air or Atmoſphere is not conſtant, but decreaſeth and increaſeth, *viz.* at Noon-day it ought to be greater, at Midnight leaſt, about the time of the riſing and ſetting of the Sun moderate, as in Propoſition XIV.

Propoſition IX.

To make a Thermometer, Thermoſcope, or Weather-glaſs, by which we may diſcover the mutations of the Air in heat and cold.

How to make a Thermometer or Weather-glaſs.

Take a Glaſs of an oblong and cylindrical neck with the ſpherical ſmall head L H, let this be fixed to the Table or Board M N P Q, the head being erected. Let a Veſſel with water be placed under the Orifice (which is beſt to be coloured) ſo filled that part of the pipe or neck L F may be hidden in it: Now let the time of the moderate conſtitution of the Air, or at that time at whoſe temperature you will compare the temperature of the Air of the other days, and at that time let the water be poured into the Veſſel, ſo it will happen that the Air becoming more frigid, the water will aſcend upwards beyond F, becauſe that the Air being condenſated with cold, which before filled up the ſpace F A, now poſſeſſeth leſs ſpace. On the contrary, the Air being rendred more hot, the water will deſcend from F towards L, becauſe that the Air F H being rarified now requireth more ſpace.

See Scheme.

Now you will find the degrees of accretion and diminution of the heat and cold, if that you divide the Line F A on the Table into certain parts of numbers. Or without putting a Veſſel under, ſet the Glaſs L H even at the extremity L, have a Globe with a little hole from the ſide, and let this Globular Veſſel be filled with Air; for ſo alſo the degrees of heat will be ſhewed by the aſcent and deſcent of the water.

Propoſition X.

The ſerene Air may be carried ſo by a moſt vehement fire that it may occupy a ſpace 70 times greater than it did before: On the contrary, it may be ſo condenſed in a Wind-gun, that it may only poſſeſs a 60 part of the former ſpace, but the heat of the Sun bringeth not ſo great a rarification, or the cold ſo great a condenſation to the Air,

The ſame is proved from that, that if you take an *Æolopile* and heat it with fire, ſo that it may then contain 13 ounces; but the ſame being cold, and returning to its former natural eſtate, it will contain 13 ounces, a dram and a half: Therefore the ſpace that the Air occupied whilſt that it was hot, is greater than the ſpace that the Air poſſeſſed when refrigerated, that the difference of the ſpace is that part of the *Æolopile* that receiveth half a dram of water, if that the whole receiveth 13 ounces with half a dram; and the part of this *Æolopile* is almoſt the 70 part of the whole ſpace in the *Æolopile*, therefore the Air being hot, hath poſſeſſed a ſpace 70 times greater than it doth when it returneth to its natural eſtate.

Propoſition XI.

Why in the places in the Frigid Zone, at the time in which the Sun ariſeth not altogether unto them, on ſome days the Air is clear and ſerene, and for the moſt part cloudy and foggy.

Of the Air in places of the Frigid Zone.

I anſwer, the cauſe of this groſs and almoſt perpetual Miſt or Fogg, is the ſmall heat of the ſubterraneous Earth it ſelf, or elſe it is derived from the Sun, and likewiſe the Moon (which in the time of the obſcurity of the Sun remaineth many *days*

days and *nights* continually above the *Horizon*) & the other *Stars*; which heat becauſe it is weak, cannot diſſipate this *Miſt*. Now that ſome *days* or *nights* afford a ſerenity of the *Air*; this happeneth not becauſe the thick vapours are attenuated, but becauſe that they either ſink down into the *earth*, or elſe are forced into other places by the *winds*.

Propoſition XII.

Why oftentimes in the greateſt cold of the Winter, the Air is yet ſubtile and ſerene, when that yet the cold condenſateth and contracteth the Air?

The Air ſubtile and ſerene in the greateſt cold of the Winter.

Cold is twofold, Moderate or Extream. Moderate cold rendereth not the *Air* ſerene, but cloudy, by reaſon that *vapours* are elevated, but not diſcuſſed by that little heat which is mixed or adjoyned to that cold. But an extream cold maketh the *Air* ſerene for a twofold reaſon. 1. Becauſe it rendereth the groſſer vapours of the *Air* more groſs, and ſo cauſeth them to fall, and make the *Air* more ſubtile. 2. Becauſe that the pores of the *earth* are ſhut and bound up, and the vapours themſelves cannot exhale and render the *Air* turbid. The *Sea* it ſelf indeed is not bound up with *Ice*, yet the *particles* are ſo condenſated with *Ice*, that it is not ſo apt for exhalations, although it ſendeth forth many; for the condition of it, and the earth, are different.

Propoſition XIII.

Why the Air being beheld at the Horizontal Line, appeareth more thick and cloudy than that in which we are?

The cauſe is twofold: 1. Becauſe that the *Air* about the *Horizon* is indeed more cloudy. The other is a fallacy or deception of the *ſight*, or *judgment* from our ſight; for the *eye* apprehendeth the diſtances of columns placed in a long order and *ſeries*, and therefore as the judgment ſuppoſeth the remote columns to be conjoyned, ſo alſo it apprehendeth not the diſtances of the *particles* of the *Horizontal Air*, but imagineth them conjoyned: but the eye beholdeth the diſtances of the elevated *Air* under greater *Angles*, and therefore better apprehendeth it. The ſame is the reaſon why the *Air*, which appeareth cloudy to us, removed from it, when we come to it, or are in it, ſeemeth leſs miſty, or cloudy.

Propoſition XIV.

Whether that the Altitude of the Atmoſphere or Air above the Earth, be the ſame in all places at one and the ſame time; and whether its figure be ſpherical.

Of the Altitude of the Atmoſphere.

That the *Altitude* is not the ſame, but divers in ſundry places, ſeemeth to follow from thence, that the *Sun* is only *Vertical* to one place at one time, and it ſendeth forth oblique rayes; and therefore more weak unto other places, by how much the place is more remote from the *Sun*, and nearer to the *Poles*: therefore the *pores* of the *rayes* of the *Sun* are very different to the elevating of the vapours, and therefore they are raiſed to different *Altitudes*, to wit, in a place unto which the *Sun* is vertical, his *Altitude* is the greateſt, in the oppoſite place the leſſer, in the places about the *Pole* moderate, ſo that the *Air* receiveth an oval figure.

But the contrary is more probable, *viz.* that the Altitude of the *Atmoſphere* is the ſame in all places; for although that the *Vapours* and *Air* be more elevated in ſome places than in others, yet becauſe that the *Air* is fluid and tendeth by its gravity to the *Center* of the *earth*: therefore the more elevated part of the *Air* preſſeth down the *Air* placed under it, and this thruſteth down another more depreſſed, until all the parts acquire the ſame *Altitude*.

And after the same mode the *Spherical Figure* of the *Air* shall be demonstrated, as in the *thirteenth Chapter* we have proved, with *Archimedes*, concerning the *water*, by reason that the same *Hypotheses* are prevalent here, which we there assumed, to wit, that the part of the *Air* less pressed is expelled by that which is more pressed; for every part is pressed by the *Air* that is above it: wherefore the *Figure* of the *Air* is *spherical*, not *oval* as some will have it: but if the forementioned *Hypotheses* be not granted, the demonstration falleth. *Des Cartes* also maketh the *Air* oval in *figure* for a peculiar reason; see *Chapter fourteen.*

Proposition XV.

Condensation or Rarefaction of Air changeth not its Altitude.

Condensation of Air changeth not its Altitude.

Because that the whole *Atmosphere* is not condensed, but only some parts: and at all times some parts are condensed, sometimes these, sometimes those; wherefore the *condensation* or *rarefaction* of one time, doth no more alterate the *Air* than the *condensation* or *rarefaction* of the first time. There only seemeth to be a difference, that at one time there may be a greater *condensation* or *rarefaction* than at another: but this difference can little augment the *Altitude*.

Proposition XVI.

The Altitude of the Atmosphere or Air is not only the same in divers places, but it remaineth the same, and that constantly at all times both Winter and Summer.

The Altitude of the Atmosphere is always the same in divers places.

For although that *heat* in the *Summer* of our place may more elevate also our *Air* more than in *Winter*, yet because that the *Winter* is at the same in another place of the *earth*, the *Air* is less raised in it; wherefore part of our *Air* shall be moved towards the *Air* of those places, where the *Air* is less elevated, *viz.* to the more depressed place, as we have shewed in the *fourteenth Proposition*. And on the contrary, whilst that the *Air* of the place where we are, is depressed by reason of the cold of the *Winter*, part of this *Air*, where the *Summer* or the greater heat is, shall be moved towards our place, *viz.* until the whole *Air* be equally distant from the *Center* of the *earth*.

The same is the reason concerning the *Day* and the *Night*, for whilst that the *Air* is depressed and contracted in the *Night* to us, in another place it is more rarefied, and so is moved towards the *Air* of our place, until it again make a *spherical figure*; and because that all are equal on every side, therefore the name *Altitude* shall remain in every time. But because that the *Air* is condensed more in one time and place than in another, that difference seeing that it is very small, can very little vary the *Altitude*, as we have shewed in the precedent *Proposition*.

The same is the account of *Rains* or *Mists*, or *Vapours* that are in ours, or in another place: for to these it seemeth that the *Altitude* of the *Air* should be less or more. But I answer, that there is scarce any time, in which in some place of the earth it *raineth* not, and that the *Mists* fall not: and therefore when that it raineth in one place, the *Air* becometh not lesser than it was before, because that before it rained in another place: and so the reason is equal, and the quantity of the *Air* is neither augmented nor diminished.

Pro-

Proposition XVII.

By how much the Air is more cold, by so much the more it is condensed; and therefore for the most part, more condensed in the Winter than in the Summer, (to wit, in some places of the Earth;) also in the Night than in the Day: Now watery thick exhalations in the Winter and the Night, cause and augment that condensation, especially in the Morning and Evening.

The Colder the Air the more condensed.

The truth of the *Proposition* is manifest from the preceding *Propositions*: neither doth it obstruct, for that part of the more hot *Air* is moved to the more cold, as to a more depressed place; because that not that it self, but another adjoyning approachment, by reason of continual protrusion, and if that that happeneth, yet in a cold place that becometh also cold.

Proposition XVIII.

There are three Regions vulgarly made in the Air, whereof the middle is that in which the Snow, Rain, and Hail is generated: The first is that in which we are, extending it self even to the middle Region: the third is that which beginneth the uttermost bound of the middle Region, and extendeth it self to the utmost superficies of the Air (even to the Sublunary fire, as the Aristotelians *affirm.)*

Three Regions in the Air.

The *middle Region* is more cold than the *first* and *third*, which are reckoned more hot; but the *third*, by reason that it containeth more subtile, fiery, and sulphureous parts of *exhalations*, which fly to it about the place of the *watery particles*, or are thrust down as more light: (The *Aristotelians* say, that it is hot by reason of its vicinity to the *fiery Sphere*.) But the first, because that the Rays of the *Sun* falling, are near there reflexed, and so duplicate the *heat*: It happeneth that some *particles* of *subterraneous fire* exhaling, are in this *Region*. But the *middle Region* is more cold, by reason that the reflected *Rays* are there vicine to those that fall in on the *Earth*: neither do they contain any fiery sulphureous *particles*, but watery ones; for the sulphureous and fiery ones, that have carried up the watery ones, fly higher.

Proposition XIX.

By how much that place of the Earth, unto which the Sun is vertical, recedeth to the Pole; or by how much the place is more near the Poles, by so much the less distant the place of the Air is from the Earth, in which the Rain, Snow, Hail begin to be generated.

The reason is, That the *Rays* of the *Sun* do fall more obliquely on the places about the *Poles*, than on the places about the *Æquator*; and therefore the *Rays* refracted are much withdrawn from those falling in, and so cause lesser heat; and for a lesser space than the *Rays*, under the places of the *Sun*, or under the *Torrid Zone*: and so in a more nearer place, the *watery vapours* may unite to generate *watery Meteors*.

Corollary. The Superficies terminating the first Region of the *Air*, is of an oval *figure*, or rather *Elliptical* or *Sphere* like, protuberating in the *Torrid Zone*.

Pro-

Proposition XX.

By how much the place of the Earth is nearer the Pole, by so much distance the Region of the Air is distant from that Earth that beginneth the third, or in which the more subtile and Sulphureous particles are.

For there are the fewer and more subtle *particles* in part of the *Atmosphere*, by how much it is nearer the *Pole*, because that the heat of the *Sun* elicitateth fewer from the *Earth*. Therefore, because that there are fewer *particles* of the third Region under the *Frigid Zone*, than in the temperate, and in this fewer than in the *Torrid*; and yet the utmost bound of that third Region is equally distant from the *Center* of the *Earth*, according to the *sixteenth Proposition*. Thence it followeth, that the beginning of the *Region* under the *Torrid Zone*, is far more distant from the *Center* of the *Earth*, than the beginning of that in the *Torrid* and *Temperate Zone*.

See Proposition 16.

Corollary. The *Superficies* terminating the second Region of the *Air*, or distinguishing it from the third, is *Spherical*, and protuberating in the *Frigid Zone*.

All these must be shewed to Youth by *Diagrams*.

Proposition XXI.

The Rays of the Sun, Moon, and Stars, do not directly arrive at our eyes from the Æther through the Air; but where they enter the Air, they are withdrawn or deflected a little from a direct passage, which the skilful in the Opticks *term to refract the Rays, and so those Rays refracted come to our eyes, and shew us the Star.*

Of the Rays of the Sun, Moon, and Stars.

This part which treateth of the refraction of light, is the most subtle part of the Science of the *Opticks*; for Experience testifieth, that *Rays* proceeding from any visible *body*, if from one *medium*, they fall in upon another, that is, either more thick or subtle than the former, they are refracted where they have entered at this other *Medium*, or deflect from a strait direct course to the sides. The Explication is easie from a Vulgar Experiment: Let any *Vessel* be taken, and let a ball of *Gold* or *Copper*, or *Gold money*, be affixed to the bottom; then depart back from the *Vessel*, by reason of the obstacle of the sides of the *Vessel*, you can no longer see the *Money* at the bottom. Then pour water into the *Vessel*; which being done, you shall see again in the former distance, the *Money* at the bottom. From hence it followeth, that seeing no Ray could directly come from the *Money* to the *eye*, by reason of the interposition of the sides of the *Vessel*, and yet afterwards the *water* being infused, the Rays arrived at the eye: It followeth, I say, from hence, that the *Rays* proceeding from the *Money*, where they enter into the *Air*, from the *water*, do deflect, or are refracted from the direct way, and being so refracted, they arrive at the eye. It is called *refraction*, by reason that for this cause an *Oar* being partly in the *water*, doth appear refracted or broken.

See Scheme.

So let the *Center* of the *Earth* be T, L the *eye* in the *superficies*: let *d r f p* be the *superficies* of the *Atmosphere* or *Air*. Therefore no *ray* can directly arrive at the *eye* L, because it is beneath L *f g*: for other inferiour *rays* would fall in on the tumor of the *Earth* L o. Wherefore no *Star* can appear in a direct *ray* until it come to the *Horizontal line* L *f g*: And the *Stars* appear before, *viz.* whilst that they are yet beneath L *g*; for Example, in *S*; and yet from S to the *eye* L, no *ray* can directly come, because that it should first fall on L o. Therefore of necessity, the *ray* which cometh from the *Star* S to the *eye* L, is not a direct, but a refracted *ray*, *viz.* L *f*, which refracted *ray* is propogated from the incident *ray* S *f*, to wit, S *f* falling from the *Æther*, on the more thick *Medium*, *viz.* the *Atmosphere* in *f* is refracted and becometh *f* L, when that it was direct in *n*. And so the *Star* appeareth before that it could

could truly appear by a direct *ray*, that is, before that it arriveth at the *Horizontal line* L *f g*.

So a *Star* being in S, is not seen by the direct *ray* S L, but by the refract r L, whose incident *ray* is f r, and direct *r m*; and therefore the *Star* S appeareth higher, by reason of refraction, than it is; and in another place it appeareth high in the Arch *x g*, or in the Angle *r l g*, as if it were in x, when indeed it is in f.

For this is the nature of *refractions*, that the *rays* falling from a more rarified *medium* on a more thick, as from the *Æther* upon the *Air*, they become refracted, or decline towards the perpendicular, drawn through the point of incidency, or falling into the *superficies* of the incidency or *medium*. For Example, the *ray* S *f* falleth in from the *Æther* on the *Air*: f is the point of the incidency, T f the perpendicular drawn through *f* to the *superficies d r f p*; therefore the *ray* S *f n* shall be refracted *f* T, that of *f n* may be made *f* L.

So of *r m* is made *r* L; but the contrary is, when that the *rays* proceed from the *water* to the *Air*, for then they more recede from the perpendicular *line* drawn.

Lastly, this also is the nature of *refractions*, that the *rays* falling in perpendicularly on the *superficies* of another *medium*, are not refracted, but only those that fall obliquely, and not perpendicularly; and by so much they are the more refracted, by how much they fall in the less perpendicularly, or by how much the more they depart from the perpendicular. So the *rays* S T, *f* T, H *d* T, are not refracted, because that they are perpendicular on the *superficies d r f p*; but the *rays* S *f*, S *r*, are refracted, because that they fall obliquely, and indeed S *f* more than S *r*.

From whence it followeth, (which Experience also testifieth,) that by how much the *Stars* are more near the *Horizon*, by so much the more they refract their *rays*; by how much the higher, by so much the less. And *Astronomers* have observed, that the refraction is insensible where the *Star* hath attained the *altitude* of 20 *degrees*; not that there is no refraction, but that it is very small.

And for many Examples the skilful in the *Opticks*, and later *Mathematicians*, have derived the Rule of *refraction* of all *Rays* falling in obliquely, *viz.* that in every *medium* there is one constant account between the sign of the *Angle* falling in, and the sign of the *Angle* refracted; to wit, the *Angle n f* T is termed the *Angle* of incidency, L f T the *Angle* refracted, *n f* L the *Angle* of refraction: and so in the refraction of the *ray f r m*. Therefore as the sign of the *Angle* T *f n* is to the sign of the *Angle* T *f* L, the same is the reason of the sign of the *Angle* T *r m* to the sign of the *Angle* T *r* L. Thence it followeth, that if from observation we have the quantity of refraction to the elevation of one *Ray*, we may thence know the quantity of the refraction of all others, howsoever elevated.

Proposition XXII.

The Atmosphere or Air, causeth the Sun, or the rest of the Stars, to be seen before that they arise in the Horizon; also to appear for some small space of time after that they have set; also that they appear higher than they are, and in another place of the Heavens, as long as that they are no higher than 20 degrees.

The Air causeth the Sun and Stars to be seen before they arise in the Horizon.

We have sufficiently explained the Cause in the precedent *Proposition*; only we shall add some Experiences or Natural *Phænomenons*. When that the *Dutch* wintered in *Nova Zembla*, the *Sun* appeared to them sooner by *sixteen days* than it was in the *Horizon*, that is, when that it was as yet depressed beneath the *Horizon* about *four degrees*, and that in a serene *Air*. And famous *Astronomers* have found it out with *Tycho Brahe*, that in our places the *Morning-sky* or *Air* being serene, we may behold the *Sun* elevated above the *Horizon* 34 *minutes*, when that as yet he is wholy under the *Horizon*, yet so that

that his *limbus* or *skirt* doth enlighten the *Horizon*. And the *Sun* seemeth to arise, when that as yet he is depressed about 34 *minutes* beneath the *Horizon*, to wit, the *Air* of the place where we are, being serene.

So the *Spica Virginis*, a bright *Star*, seemeth to rise to us, when that yet he is depressed 32 *minutes* beneath the *Horizon*, which is thence collected, because is seemeth to arise, when the *Cauda Leonis* is 34 *degrees* 30 *minutes* high, and in the same quarter in which this *Star* of the *Lion* then is. And the *Cauda Leonis* and the *Spica Virginis*, are distant thirty five *degrees* and two *minutes*.

Proposition XXIII.

By how much the Air or part of the Atmosphere, on which the ray of the Star falleth, is thicker, by so much it maketh the greater refraction, other qualifications being equal; viz. the same elevation of the Star, and the same altitude of the Air.

So the *Angle n f* L (which is, and is called *Refraction*,) is by so much the greater; or the refracted *Angle f* L approacheth so much the nigher to *f* T, by how much the *Atmosphere* is more gross: For so the Studious in the *Opticks* have found it true in all sorts of *Mediums*.

Proposition XXIV.

By how much the Air is thicker, by so much the more the Star is depressed beneath the Horizon, when that it first beginneth to appear.

The thickness of the Air causeth the depressing of the Star.

L *f* is the refracted *ray*, which first maketh the *Star* to appear: L *f* T is the refracted *Angle*; and let S *f* be the incident *ray*, and *n f* T the *Angle* of incidency, *n f* L shall be the refraction.

Now let us suppose the *Air f n L o* to be thicker than where it maketh the refraction of the *ray n f L*. If therefore it be thicker, it shall make the *Angle* of refraction greater, *viz. c f L*, and the incident *ray* shall be K *f c*. Therefore the *Star* being in K, the *ray* K *f* shall be refracted, that the refracted *Angle f L* may shew the *Star*: but the *Air* being less thick, the *Star* in S shall be first seen.

Proposition XXV.

By how much the Air is the lower, by so much the Star is the more depressed beneath the Horizon, when that at first it beginneth to appear, (that is, if there be the same serenity and thickness of the Air.)

See Scheme.

For the *Air* being supposed lower, the refracted *Angle T f L* shall be greater. For Example, If that *T* 4 be the *altitude* of the *Air*, the refracted *Angle* shall be (for the *ray* refracted coming first to *L*) *T* 4 *L*. Let 49 be drawn *parallel* with *f n*, because that so it is from the *Hypothesis* of the 21 *Proposition*, as the sign of one refracted *Angle T f L* is to the sign of the other refracted *Angle T* 4 *L*, (for they are supposed to differ so much in *altitude*, not in *density*;) so is the sign of the *Angle* of incidency *n f T*, to the sign of the *Angle* of incidency 3 4 *T*, for the refracted 4 *L*, and the incident 3 4 6. Now the sign of the *Angle T* 4 *L* hath a greater respect to the sign *T* 4 9, than the sign *T f L* to the sign *T f n*, as is easily demonstrated by a *Diagram* described according to this draught. Wherefore the sign of the *Angle T* 4 *L* hath a greater respect to the sign *T* 4 9, than the same sign *T* 4 *L* to the same sign *T* 4 3. And therefore the *Angle T* 4 3 is greater than the *Angle T* 4 9, and 3 4 *L* is greater than 9 4 *L*, that is, than the *refraction n f T*. The sign *T* 4 *L* is greater than the excess of the sign *T f n* above *T f L*. Wherefore the *Angle* 3 4 *L* is greater than the *Angle n f L*; and therefore 43 protracted, *viz.* 346 the *ray* incident, for

for the refracted 4 *L* shall fall beneath *Sf*, and the *Star* shall be in 6, that it may make the refracted *ray* 4 *L*; and therefore it is more depressed, than when it is in *S*, where the *altitude* of the *Air* shall be *L f*.

Proposition XXVI.

The same may be the refraction of any Star to the same situation of it, although the altitude of the Air be different, if that there be only a difference in the thickness of the Air.

The form of the *Problem* is more rightly propounded thus: *The altitude of the Air, and the refraction being given, which the Star maketh at the given Altitude; and moreover another altitude of the Air being given, to find the density of this Air, or proportion of this refraction, such, that the same refraction may be at the given Altitude of the Star, which was in the first altitude of the Air.* For Example, In the *altitude* of the *Air Tf*, the ray of the *Star* See Scheme. *Sf* maketh the *Angle* of refraction *n f* L. If now that there be another *altitude* of the *Air T* 4, and yet of the *Star* S in the same scituation of the incident ray 54, (which by reason of its great distance is as it were *parallel* with *Sf*) the refraction 34 *L* is equal to the refraction *n f L*.

It is demanded, whether that this can be done; and if that it can, whether that this other *Air* ought to be thicker, and in what proportion of density or rarity?

I answer, that it may be done, and that if the other *latitude* of the *Air* be greater than the former *Tf*, the density of this other or second *Air* ought to be greater; but if that the other given *altitude* be lesser: for Example, *T* 4, the thickness of the other ought to be lesser, or rarity greater. Now how great this density or rarity ought to be, is thus known.

First, let the *Angle T* 4 *L* be found out (from the given *T* 4 and *T L*) also *T f L*; then the sign of the *Angle T* 4 *L*, also the sign of the *Angle T* 4 3 (which is the *Angle* of the incidency of the *ray* 34 *f*:) therefore you have the *proportion* of the density of this *Air*, or rarity of the same to the rarity of the *Æther*, from whence the incident *ray* cometh. After the same manner let the *signs* of the *Angle T f n* and *T f L* be taken, so these *signs* will shew the *proportion* of the rarity of the former *Air* to the rarity of the *Æther*, and by the comparing of these accounts you will know, how much the latter *Air* of a lesser *altitude* ought to be more rare, or of a lesser thickness than the former.

Yet in proper manner of speaking, the *refraction* is not the same, because we understand the same refraction, if that the *rays* falling in equally are elevated above the *superficies* of the *Mediums*.

Proposition XXVII.

If that the Air of one place be both thicker and lower than the Air of the other place, the Sun and the other Stars shall be more depressed beneath the Horizon of the former place, when that they begin first to appear, than in the second place.

The Air causeth the depressure of the Sun and Stars beneath the Horizon.

The *Demonstration* of this *Proposition* is manifest from the 25 and 26*th* preceding *Propositions*. It followeth from thence, that if the *Air* be thicker and more low in the places of the *Frigid Zone*, than in the places of the *Temperate* and *Torrid Zone*; that the *Sun* may be seen in those places, far sooner before his rising, and longer after his setting, than in the other places: for when that he is more depressed beneath the *Horizon*, and therefore ascendeth more obliquely, and in a longer time to the *Horizon* of those places; thence it followeth, that he is seen far sooner before his rising in the *Frigid Zone*, than in the *Torrid*. But it is a question, whether that the *Air* be lower in the *Frigid Zone*, and though the *Sun* appeareth sooner before his rising, whether that only a thickness of Air is sufficient; of which more afterwards.

Proposition XXVIII.

Of the thickness of the Air. If that the *Air* of one place be of a more thickness, and higher than the other, it may be an excess of thickness, so that they may not see the *Stars* before the rising in so great a depression beneath the *Horizon*, than in the other *Air*: also the excess of thickness may be such, that the *Stars* may begin to be beheld in the same *depression*. Lastly, the excess of thickness may be such, that the *Stars* may be beheld in a far distanter or longer depression beneath the *Horizon*, than in the other *Air*. Yea this thickness may bring with it a far greater depression than the lowness of the *Air*; and instead of *refractions* in *Nova Zembla*, a notable *altitude* of the *Air* with thickness is required.

Proposition XXIX.

It cannot be, that the refractions of any one Star in two Altitudes in one Air, should be equal to the refractions of the same Star in the same Altitudes in another Air, that is higher or lower, or thicker or more subtile.

See Scheme. In the former *Proposition* we have demonstrated, that if in the *altitude* of the Air Tf, the incident ray Sfn maketh the refraction nfL, *viz.* $T4$, the ray $S4$ in another *altitude* (which is parallel with Sf, by reason of its great distance, and the *rays* are from one point) make the same refraction $34L$, which is equal to the refraction ncL, *viz.* if that the *Air* $4oLW$ be less thick than $foLd$. Now therefore it is demanded, whether that this may be done in the two *altitudes* of the *Star*: For Example, It being supposed that in the situation of the Star S, the *Air* $foLd$, and the *Air* $foLW$ are so, that they cause an equal refraction: whether that in the *altitude* of another *Star*, for Example, in S, in the same *Atmospheres* $frdLo$, $4WLo$ can again be an equal refraction, or the same mcL. And I say, that it cannot be; for let the *Periphery* of this Air $T4$ be described in the Center T, the interval of another *Altitude*, cutting Lr in 3. Therefore $3L$ shall be the *ray* refracted in this other Air, through which the Star S is seen: for the ray $3L$ is the same with rL, by reason that the same apparent *altitude* xg, or Angle nLf, of the Star S is laid down. Moreover for this refracted *Angle*, let the incident ray be drawn through $3,73W$, which shall be parallel with Srm, if that the refraction $L3W$ were equal to the refraction Lrm: for let $T3$ be also drawn, the Angle $T3W$ shall be the Angle of incidency, $Tr L$ the Angle refracted, $W3L$ the refraction.

Therefore as the sign $34T$ is to the sign $L4T$, so is the sign $W3T$ to the sign $L3T$.

And as the sign nfT is to the sign LfT, so is the sign mrT to the sign LrT.

And now $34L$ is equal to nfL; wherefore $W3L$ is not equal to mrL, or $W3$ is not parallel with mr.

Now this consequence requireth a more difficult and operose Demonstration than can be propounded in this place, seeing that it rather belongeth to *Geometry*; yet it shall be made manifest from the *Analysis* of the following *Proposition*.

Pro-

Proposition XXX.

The two refractions of any Star being observed in two Altitudes, to find thence both the altitude of the Air and the thickness of the Air in respect of the Æther, or the rule of Refraction in this Air.

Of refractions of Stars. The refraction of a *Star* is of an equal difference between his observed *Altitude* and the true one, which is known by calculation, and therefore it is easie to know the refractions of the *Stars*. Now to come to the purpose, let the refraction nfL of a *Star* in S, and ejaculating his *ray* Sf be given; then again in the *altitude* of the same Sg, the same refraction mrL.

Then in the Circle $drfpd$, whose *Center* is T. TL is given (the *Semidiameter* of the Earth,) and Tr, Tf, Lf, Lr being drawn, let the Angles TLf, TLr be given (compounded of the Altitude of the *Star* and 90 *minutes*,) and the Angles nfL, mrL are given; and we know besides, that the same is the account of the *sign* of the Angle nfT to the *sign* LfT, which is the account of the *sign* mrT to the *sign* LrT. From these we must find the *Semidiameter* of the Circle Tf or Tr, and moreover the account or equality of the *sign* nfT to the *sign* LfT, or we must find out the Angle TfL.

Indeed the *Analysis* doth teach that it may be found out, but by a most difficult Solution, so that the *Synthesis* or collection cannot be found out without many *Propositions* premised, like so many *Indexes*, which are altogether improper to this place. Yet we will produce the *Analysis*, both that we may shew this Problem to be determinated, and also that the truth of the preceding *Proposition* may also be confirmed.

Let TL be f,
The sign of the right Angle TLf *S.* b
The sign TLr *S.* c
The sign nfL *S.* d
The sign of the Complement S. g.
The sign mrL *S.* h
The sign of the Complement K.
The sign LfT *S.* a

Therefore it is in the Triangle fLT.
As the *sign* LfT is to the *sign* TLf, so TL is to Tf.
As a to b, so is f to $\frac{bf}{a}$.

Let us seek the Angle LfT, because that after we have gained this, also Tf and the rest will be known.

And because that the *sign* of both the Angles $Tf L$, Lfn is given; the *sign* also of the whole Angle nfT shall be given, *viz.* if that the *signs* of both Angles be multiplied alternately unto the *sign* of the *Complement* of the other; and the aggregate of the produced be divided by the ray bf; therefore the *sign* of the Angle nfT, is $\frac{ha+db-dv(bbaa)}{f}$.

Then in the *Triangle* TLr are now known Tr, TL, the sign TLr. Therefore as Tr is to TL, so is the sign TLr to the sign TrL.
As $\frac{bf}{a}$ is to f, so is c to $\frac{ca}{b}$ for the sign TrL.

And let the *sign* mrL be also given, and you shall find according to the former Rule of the whole *Sinus*, mrT, *viz.* if that $gf\frac{kcd}{bf}-v\frac{ggffbb-ggccaa}{bbff}$ or if $\frac{kc}{b}$ be equal to m, and $\frac{ggcc}{bb}$ be nn, that the sign shall be $g\frac{ma}{f}-v(\frac{ggff-nnaa}{ff})$.

Therefore we shall have the *signs* of four *Angles* LfT, nfT, LrT, mrT: now we know these to be proportional; therefore as the sign TfL shall be to the sign Tfn, so the sign TrL shall be to the sign Trm.
As a to $\frac{ha\times bd-dv(bbaa)}{f}$, so c to $\frac{ca}{b}$ to $g+\frac{ma}{f}$ v. $(\frac{ggffnnaa}{ff})$.

And therefore as b to c, so is $ha+db-d$ v $(bb-aa)$ to $gf+ma-$v $(ggff-nn\,aa.)$
And $bgf+cdb-bma+cba+bu\,(ggff-nn\,aa)$ equal to $+dv\,(bb\,aa.)$

For $bgf+cdb$ take $\overset{3}{p}$, and for $-bma+cba$ place $qq\,a$.

And $-\overset{6}{p}-\overset{4}{q}u\,a-2\overset{3}{p}q\,q\,a.$
$+bbggff-bbnn\,aa.$
$+cc\,dd\,bb-cc\,dd\,aa.$

Equal 2 v $\left\{\begin{array}{l} bb\,gg\,ff\,cc\,dd\,bb-bb\,gg\,ff\,cc\,dd\,aa. \\ \qquad\qquad +bb\,nn\,cc\,dd\,\overset{4}{a}\overset{2}{\}} \\ \qquad\qquad \overset{4}{ec\,dd\,bb\,nn\,aa} \end{array}\right.$

And the *division* being made by $2\overset{3}{p}$, and other *signs* being substituted, it shall be

$\overset{3}{r}-t\,aa+qq\,a$ equal to v $(\overset{6}{x}-\overset{4}{y}\,aa+\overset{4}{zz}\,a.)$

And $\overset{6}{r}+\overset{4}{t}\,a+\overset{4}{q}\,aa.$

$\overset{3}{r}\,qq\,a$ equal to $\overset{6}{x}-\overset{4}{y}\,aa+\overset{4}{zz}\,a.$
$\overset{3}{t}\,qq\,a+\overset{3}{r}\,t\,aa.$ ——— $2.\,t\,qq\,a-2.\,r\,t\,aa.$

So a *division* again being made by $tt-zz$, and other *signs* being substituted, it shall be $\overset{4}{a}-\overset{4}{b}\,a-zz\,aa+ww\,a$ equal to $\overset{4}{y}$.

For by this equation it is manifest, that the Problem is determined, and this very letter a, that is the sign of the *Angle* T f L, may be found as well by *Geometry*, as by the *Arithmetical Analysis* of *Vieta*: or also more easily, if that the equation may be reduced to a lesser power by the *division*: and from hence it is collected, that two refractions may suffice to find out the *altitude* of the *Air*, T f, and the very rule of *Proportion*; which I therefore take notice of, because that I see *Kepler* in the *Epitome* of his *Astronomy*, page 65. to require *three refractions*, although that he hath not attempted this way.

See *Kepler* in his Epitome of *Astronomy*, page 65.

Although therefore it hath been shewed, that the solution of this Problem may be had both by *Geometry* and *Arithmetick*; yet because that both are very laborious and difficult, especially to those that are studious in *Geography*; wherefore most understand not this, therefore for their sakes I shall demonstrate another Method, by which the Problem may be more easily absolved, although it be less *Mathematical*, *viz.* by the Rule of *Position*: Therefore let T f be taken in a certain *measure* at T L.

See Scheme.

Therefore in the *Triangle* $f\,L\,T$ from $f\,T$, $T\,L$, $T\,L\,f$, the Angle $T\,f\,L$ shall be found: So in the *Triangle* $T\,L\,r$, from $T\,r$, $T\,L$, $T\,L\,r$, the Angle $T\,r\,L$ shall be found.

Then let the *signs* of the Angles $T\,f\,L$, $T\,f\,n$, $T\,r\,L$, $T\,r\,m$ be taken also, let a fourth part proportional be taken at the *signs* $T\,f\,L$, $T\,f\,n$, $T\,r\,L$. If that therefore the sign $T\,r\,m$ be equal to this fourth proportional part, then the assumed *magnitude* or *altitude* of the *Air* T f shall be true and legitimate; but if the sign $T\,r\,m$ be greater than that fourth proportional, the lesser sign T f shall be taken; but if that the *Minor* be greater, then the *Major* must be taken, and this must be done so long until the sign $T\,r\,m$ be found equal unto the fourth found out proportional part.

Example.

Let the *Spica Virginis*, or any other *Star*, or the *Sun* be placed to be beheld in the *Horizon* L f, when that it is yet depressed 40. 32 *minutes*, *viz.* in S. therefore the refraction $n\,f\,L$ is 32.

Then when that the same *Star* or the *Sun* hath the *altitude* $g\,x$ 1 *degree* 22 *min.* or the true *altitude* $g\,S$ 1 *deg.* then the refraction $L\,m\,r$ is found 22 *minutes*.

The

The *Semidiameter* T L is 860 *German miles*, let us put it to be 1000, and the Altitude $o\,f$ let us suppose to be of such part S, (*viz.* $\frac{1}{10000}$, or $\frac{1}{3000}$ of the whole *Semidiameter* T L, that is $\frac{1}{4}$ of about one *mile*.)

Therefore the whole assumed *sign* in the Triangle $T\,L\,f$ 10000000.

As $f\,T$ is to T L, so is the sign T f L, 2001-2000-10000000-9995992 *signs*, 88 *deg.* 22 *min.* 40 *seconds*.

Therefore $T\,f\,n$ is 88 *deg.* 34 *min.* 40 *seconds*, whose sign 9998200.

Again in the Triangle $T\,r\,L$.

As $T\,r$ is to $T\,L$, so is the sign of the Angle $T\,L\,r$ to the sign $T\,r\,L$. 2001-2000-9997155-9992159. Signs 87 *deg.* 43 *min.* 40 *seconds*.

Therefore $T\,r\,m$ is 88 *deg.* 5 *min.* 40 *seconds*, whose sign 9994500.

Let the fourth proportional part now therefore be found at the sign $T\,f\,L$, $T\,f\,n$, $T\,r\,L$, *viz.*

$T\,f\,L$ $T\,f\,n$ $T\,r\,L$

As 9995992 to 9998200, so is 9992159 to 9994366.

With this fourth number, let the sign of the Angle $T\,r\,m$, which is 9994500, be compared.

Therefore we find, that this sign is almost equal to that fourth part, and therefore the assumed *altitude* of the *Air* ($\frac{1}{4}$ of one *mile*) doth not much differ from the true Altitude. But if that you desire to have it more accurately, you may take another *Altitude* and work after the same manner, until the sign $T\,r\,m$ be more equal to this fourth proportional part; or else apply the rule of *Falshood*, or from the defect of two Positions, to collect the true *Altitude* as far as you may; for you cannot well find it altogether accurate, because that signs in little numbers do very much vary, although at least there be only the escape of half a *minute*: moreover the *Canon* of *signs* ought to be most accurate.

We conclude therefore, that the *altitude* of the *Air* is the 2000*th* part of the *Semidiameter* of the *Earth*: this *Semidiameter* is 1633190 *Perches*; therefore the *altitude* of the *Air* is 816 *Perches*; wherefore one *Perch* containeth 12 *Rhindlandish* miles: but half a *German* mile is more truly taken, because that the refraction $L\,f\,n$, by *Tycho*, is greater than that we took, and 36 yea 38 may be taken, which being laid down, the *altitude* of the *Air* cannot be less than one mile.

The *altitude* of the *Air* being known, an account must also be given of the density of the *Air* to the thickness or subtlety of the *Æther*, or a rule of the refraction in this *Air*, *viz.* which maketh such refractions at such situations of the *Star*; *viz.* the account of the sign T f L, found before at the sign T f n, is the account or reason demanded.

As 9995992 to 9998200. And the reason why these refractions are so small, is, because that we have taken the most serene *Air*, which differeth not so much from the *Æther* in rarity, as some imagine to themselves.

Moreover, whether that the found out *altitude* of the *Aire* be the same every where, and at every time, if from the two refractions observed at the two *altitudes* of the *Star* in another *Air* and in another time, the *altitude* of the *Air* be calculated after the same mode, as we have now done.

And that those that are studious in nature may have whereon they may exercise their calculation, and make a trial of the matter (whether that the *Altitude* be the same every where, and at every time,) I will give them here Examples from the *Observations* of *Tycho*, who hath observed the refractions of the *Sun* and *Moon* at every *degree* of their *Altitude*. And because that the *Observations* of *Lansbergius* (because that he observed them in a different Air, if that he observed them at all) differ from those of *Tycho's*, I will also add them.

The

The TABLE of Refractions.

The degrees of Altitude.	*The Refraction of the Sun, according to* Tycho.	*The Refraction of the Moon, according to* Tycho.	*The Refraction of the Sun and Moon according to* Lansbergius.	
Degrees.	Minute 1.	Minute 1.	Minute 1.	1/.
0	34	33	34	
1	26	25	26	
2	20	20	21	
3	17	17	18	
4	15	15	15	45
5	14	14	14	0
6	13	14	12	30
7	12	13	11	15
8	11	12	10	5
9	10	11	9	5
10	10	11	8	15
11	9	10	7	35
12	9	10	7	5
13	8	9	6	40
14	8	8	6	19
15	7	8	6	0
16	7	7	5	42
17	6	7	5	24
18	6	6	5	7
19	5	6	4	50
20	4	5	4	33
21	4	4	4	16
22	3	3	4	0
23	3	3	3	44
24	3	3	3	28
25	2	2	3	12
26	2	2	2	56
27	2	2	2	40
28	2	2	2	24
29	2	2	2	9
30	1	1	1	54
31	1	1	1	39
32	1	1	1	24
33	1	1	1	9
34	1	1	0	55
35	1	1	0	41
36	1	1	0	27
37	0	1	0	13
38	0	1	0	0

[illegible]*bergius*

The refractions of the *Sun* and *Moon*, according to *Lansbergius* and *Tycho*.

Lansbergius placeth both the same *refractions* of the *Sun* and *Moon*: but *Tycho* maketh them somewhat divers, *viz.* about the *Horizon* he maketh the refractions of the *Sun* greater than those of the *Moon*; then the fifth degree of *Altitude*, he maketh them equal from this; then at length he maketh the *refractions* of the *Moon* a little bigger than those of the *Sun*. Indeed I confess my self ignorant of the cause of this, except it be to be ascribed to the weakness of the light of the *Moon*. Moreover, *Tycho* omitted the second *Minutes*, which yet should not be omitted, if that they come near to 60; because that there is use of them in the calculation of the *altitude* of the *Air*. Now you must know, that the refractions of all the *Stars* are the same, or else that the difference is insensible, *viz.* in one *Air*: But if that the *Air* be thick, the refractions will be greater. An Example of it is this (whereof a cause hath not yet been rendred sufficiently hitherto by any,) The *Dutch* Wintering in *Nova Zembla*, beheld the *Sun* after the *night* of some *Months*, when that as yet the *Limbus* or edge of the *Sun* was yet beneath the *Horizon* four *degrees* at least; therefore the refraction of *f L* is 4 *deg.* 30 *min.*

Then at length, when that it was depressed beneath the *Horizon* 3 *degrees* 40 *minutes*, they saw him elevated above the Horizon 30 *degrees* (*viz.* his upper *Limbus*;) therefore the refraction *m r L* (we conceive *m r S* to fall beneath the Horizon, and *r L g* to be 30 *min.*) shall be 4 *deg.* 11 *min.* and *L L T* 90 *deg.* 30 *min.* From hence shall be found the *altitude* of the *Air*, *L f*, and the reason of the density of that Air at *Nova Zembla*, which yet was serene at the time of the Observation. Now the *Altitude* is found much greater than the other refractions admit of, *viz.* of almost two *miles*; neither is it corrected by the position of a greater thickness of *Air* (as shall be shewed in the following *Proposition*) by reason that the Angle *T f L* cannot be greater than 85 *deg.* 30 *min.* (if that *n f L* is 4 *deg.* 30 *min.*) it becometh greater, if that *d f* be placed less than 2 *miles*. Therefore we do not undeservedly doubt of the truth of the observation of the *Mariners*, seeing that no like Example hath been observed, yea the contrary hath been observed in the same place. Moreover, no reason can be rendred, that in those places (after so long an absence of the *Sun*) the *Air* should be higher, than at the time wherein after so long a stay the *Sun* departed; seeing that rather the contrary doth follow, *viz.* the *Air* becoming more thick and lower (by reason of contraction) if that any one will urge the *altitude* of the *Air* to be inconstant. Yet when I more accurately weigh all the matters, three things fall in with me, by which that apparancy and great refraction may be salved, (for seeing that the *Master* or *Pilot* was skilful in *Astronomy*, and also that they saw the *Sun* elevated above the Horizon, in which he was yet depressed; therefore we ought not to deny the Observation, neither ought we to be suspicious concerning an Errour in the numeration of the *days* by reason of that long *night*; for when that they returned to their own Countrey, they reckoned the same day of the year that their Countrymen reckoned, which they could not have done, if that before they had made a false reckoning of the *days*: For if that we will admit so great an *altitude* of the *Air*, such as the refractions of the *temperate* and *torrid Zones* do not admit of, we must say, that the Air is every where the same both in the *torrid* and *temperate Zone*, as it is in the *frigid*; but the supream Region of the *Air*, both in the *torrid* and *temperate Zone*, is so subtile, that it maketh no refraction, but only the middle Region: Whence it is no wonder, if that the refractions in the *torrid* and *temperate Zone* be lesser; for although the Air be lower that causeth them (for which cause the refraction ought to be greater) yet it's far more rare than the other *Air*.) But yet an Objection may be made against this, *viz.* that the observation of the *Mariners* was made in a serene Air, as they themselves testifie. Unto this I answer, That yet it seemeth not so probable that the *Air* should be so subtile, as in the *torrid* and *temperate Zone*, when that the *Sky* is most serene. Secondly, it may be said, That that *Air* of the *frigid Zone*, when that the *Sun* after a long absence, returneth unto it, is first attenuated in the superior Region, and the middle is yet somewhat more thick; and therefore the *Sun* was seen through two *refractions*, as the Stars through the *Air* and a *Glass*.

See Chap. 26. Propos. 1st.

Now

Now a double refraction doth far more depreſs the Star beneath the *Horizon*, than a ſimple, and ſo the *altitude* of the Air, the ſpace of one mile or $\frac{1}{4}$. Neither may you here object, why the ſame doth not happen at that time, when that the Sun departeth from the Air, and maketh the beginning of the long Night: For then it is probable, that there is leſs difference in the thickneſs of the Air, by reaſon of the long ſtay of the Sun; or ſhall we ſay, that a thicker exhalation conſiſteth in the Morning times in that *Zone*, after that long abſence. Thirdly, If that you are not pleaſed to admit that double refraction, neither are you willing to grant, that the ſupream part of the Air, in the *torrid* and *frigid Zone*, maketh any refraction; I ſay, if that the two premiſed Reſponſes or Explications pleaſe not, then you muſt confeſs, that the Air in that place of the *torrid Zone* at that time was much higher than in our *temperate Zone*, and likewiſe more thick (for only the *altitude* diminiſheth the refraction;) but if that there be a great thickneſs, refraction is much more augmented by this, than it is diminiſhed by the *altitude* decreaſing. But I am moſt taken with the firſt of theſe three Cauſes, which maketh the *altitude* of the Air two miles, for we may not in the Horizontal refraction of 4 *degrees* 30 *minutes*, make a leſs in *Nova Zembla*: the other two are perplexed with many difficulties. Now why they beheld not the Sun for ſo many days, the ſame *altitude* remaining, after he ceaſed to riſe the third day of *November*; I ſay, that the cauſe was the thickneſs of the Air. The ſame anſwer muſt alſo be given, why the ſame *Dutch Mariners* in the year 1596, on the 30*th* of *May*, beheld not the Sun at Midnight under the elevation of 69 *deg.* 24 *minutes*, when that yet it was not under the Horizon 1 *degree*: Why here it made no refraction the cauſe may be the ſame. But we have been too large concerning this matter, which prolixity the Reader muſt aſcribe to the difficulty of the Doctrine: For to accurate knowledge of this matter, moſt accurate Obſervations are required; neither yet may we, if that the Obſervations made at divers elevations of the ſame Star on one place make not the ſame *altitude*, aſſert, that therefore the *altitudes* of it are diverſe; for the cauſe may be the diverſity of the rarity of the Air, *viz.* by how much it is nigher the *Horizon*, by ſo much it is leſs rare. If that this be ſo, the Obſervations will in no wiſe produce the ſame *altitude*, although it be the ſame; becauſe that we ſuppoſe in the Calculation, that the ſame rarity of the Air is in both parts of the Air; and therefore the ſame rule of Refraction.

Propoſition XXXI.

The depreſſion of the Star beneath the Horizon being given, when that it firſt beginneth to appear (that is, the Horizontal refraction of the Star being given) to find out the leaſt altitude of that Air, as may be; the thickneſs of that Air for ſuch a refraction, and the greateſt exceſs of denſity (as may be) of that Air above the denſity of the Æther, that is the greateſt Rule that can be of Refraction. Alſo more generally, the refraction of a Star being given unto the given apparent altitude of it above the Horizon, to find the greateſt Altitude that may be.

Of the depreſſion of the Star beneath the Horizon.

See Scheme.

So let the given Horizontal refraction nfL, or the depreſſion of the Star beneath the Horizon gfS, or gLS, when that it firſt beginneth to appear, ſuch as it was in *Nova Zembla*, 4 *deg.* 30 *min.* It is manifeſt therefore from the *Opticks*, that if the *radius* Sf touch the Air in f; that is, if that the Angle NfT be ſtrait, then indeed that *ray* is not refracted; but if that no Star be beneath the Tangent in, then no ray can immediately come near to f. Therefore it is required, that the Star ſhould be about the Tangent, and the Angle nfT ſhould be leſſer than the right Angle, or than 90. Let it therefore be ſuppoſed, that 89 *deg.* 59 *min.* (or 90 *degrees*) although very great, yet not greater than 90. Moreover, let nfT the Angle given, or the Horizontal refraction 4 *deg.* 30 *min.* the Angle TfL 85 *deg.* 29 *min.* is left, the greateſt which may be; whence, if that it cometh to paſs, that as the ſign Tf L is to the ſign fL T, ſo

ſo is LT to Tf: And the found out Tf ſhall be the leaſt *altitude* of the *Air* that may be; the fourth proportional Tf ſhall be the leaſt that may be, if ſo be that the middle bounds or terms, *viz.* the whole ſigns TLf, and TL, remain the ſame, if that the refraction Tf be not given to the apparent *Horizontal ray*, but to the *altitude* of the Star xLg. We ſhall act after the ſame mode in $\triangle$, $TLrT$.

Alſo the reaſon of the ſign of the Angle nfL, 89 *deg.* 59 *min.* to the ſign TfL, 85 *deg.* 29 *min.* ſhall be the greateſt reaſon which may be, of the denſity of the *Air* to the denſity of the *Æther*.

Propoſition XXXII.

The altitude of the Air, and one refraction of a Star in it, being given to a certain altitude of it, to find out from it the rule of refraction or proportion of the ſigns of the Angles of Incidency, to the Angles refracted, or to the thickneſs of that Air, for the given refraction at the given Altitude.

Now the given *altitude* of the *Air* ought to be greater than that, which according to the precedent *Propoſition*, is found to be the leaſt: For if that it be not greater, it is a ſign that the refraction is not obſerved, and that the Problem is impoſſible. Let therefore the Tr given be greater: for Example, let xLg act the apparent *altitude*, let the known refraction be mrL; therefore in the Triangle TLr, is given Tr, TL, and the Angle TLr. From theſe is found out Trf, the refracted Angle; unto which, if that you add mrL, you have the Angle of Incidency mrT, and the reaſon or account of the ſign mrT to the ſign LrT ſhall be found: This ſhall be the rule of Refraction in this *Air*, or the reaſon of the thickneſs of it to the denſity of the *Air*. See Scheme.

Propoſition XXXIII.

The altitude of the Air, and Refraction being given to the one altitude of a Star, to find out the Refraction in another altitude of a Star.

For Example, Let the *altitude* of the *Air* Tf or Tr, and the refraction nfL at the apparent *altitude* o be given, *viz.* the Horizontal ray fL is that refracted. Then let the *altitude* of the apparent *altitude* of the Star rLg or xLg be given. Let the rule of Refraction, or the reaſon of the ſign nfT, TfL, or the ſign nfT, TfL be found by the precedent *Propoſition*. Then on the Triangle TrL, from the notes Tr, TL; and on the Angle rLT let the Angle TrL be found. And as the ſign TfL is to the ſign Tfn: ſo is TrL to the other ſign, which ſhall be that of the Angle mrT: from which, if that you take away Trf, the refraction mrL demanded is left. See Scheme.

The Ancient *Opticks* uſed another far more intricate; but yet a more falſe method.

Propoſition XXXIV.

The Altitude and Rule of Refractions of the Air being given, to find the refraction at the given apparent altitude of the Star, and thence the true Altitude.

This is the ſame with the former; becauſe in the former, from the given refraction at the given *Altitude*, that rule of Refraction was to be found. Examples for Exerciſe may be taken from the Table laid down before. Of Refractions

Of the Reflection of Light in the Air.

Propoſition XXXV.

The Rays of the Sun and Moon having entred the Air, or Atmoſphere, are not only refracted, but are alſo reflected or repercuſſed from the particles of the Air, as from a rough Looking-glaſs, *by reaſon of the inordinate ſcituation of the particles.*

Of the Rays of the Sun.

For except the Rays of the *Sun* were reflected from the particles to our eyes, no part of the *Air* would appear lucid unto us, except that above, which the *Sun* is; and ſo the *Sun* being in the Oriental part, neither the Meridian or Occidental *Air* would be lucid: Therefore ſome *rays* being refracted, paſs through by the *Atmoſphere*; ſome are refracted here and there with many reflections from one particle unto another, and ſo they make the Air luminous or light.

Propoſition XXXVI.

The reflection of the rays of the Sun from the particles of the Air, is the chief cauſe of the Twilight; that is, of the light before the riſing, and after the ſetting of the Sun.

Chief cauſe of Twilight is the reflection of the Rays of the *Sun* from the particles of the Air.

It is manifeſt from the precedent *Propoſition*: for as the *Sun* being in the Eaſt, his rays being ejaculated to the Weſt, do reflect to our eyes, and ſo make the Occidental part conſpicuous: ſo the *Sun* being beneath the Horizon, his rays ſent forth into our Air are reflected to our Eyes and to the Occident, and from the Occident to our Eyes.

Propoſition XXXVII.

The beginning of the ſcituation of the Morning Twilight, that is, the Oriental Air is illuminated, and is ſo beheld, the Sun being depreſſed about 18 degrees beneath the Horizon: and the end of the Evening Twilight (that is, no more illumination appeareth in the Occidental Air,) *is, when the Sun is depreſſed* 18 degrees *beneath the Occidental Horizon.*

Of the Morning Twilight.

This *Propoſition* dependeth on Experience and Obſervation, for if in the Morning ſeaſon (that is, after the firſt and ſecond hour after Midnight,) we diligently obſerve, our Eyes being turned towards the Eaſt, when that any bright colour ſheweth it ſelf in the Oriental *Air* about the Horizon, and that we know at that time the *hour*, and *minute* of the *hour*, we may thence know the depreſſion of the *Sun* beneath the Horizon. Now we underſtand a ſerene *Air*, of which ſeeing that there is or may be a great difference; thence it cometh to paſs, that ſome do extend the Twilight to the twentieth *degree* of the depreſſion of the *Sun* beneath the Horizon; others unto the ſixteenth: for by how much the *Air* is more thick, by ſo much the leſs will the light of the Twilight be diſcovered, contrary unto what we ſaid, may happen in refraction.

Propoſition

Propoſition XXXVIII.

The Altitude of the Air, or matter, may be found from the quantity of the Twilight, which by reflection createth the light of the Twilight, as hitherto they have thought; neither doth the beginning of the Twilight ariſe from a ſimple, but at leaſt from a double reflection.

Let *T L h* be the *Earth*, *g f o m* the bound of the *Air*; *L* the place of the Earth in which the Twilight appeareth, or the light in the Horizontal Air *f*; the incident Solary ray *f g s*. Therefore *Mathematicians*, that have hitherto written concerning Twilights, ſay, that the ray incident on *f*, which maketh the reflection *f L* to come from the very Sun *S*, and becauſe that no ray can come from the Sun to *f*, ſo long as the Sun is beneath the Tangent *f h s*; for Example in *S*, then its *ray* may come to *f* firſt: or becauſe that they will have reflection to be made from *f*, as from an hollow *Looking-glaſs*; therefore *T f h* ought to be equal to the Angle *T f L*: wherefore becauſe that the *Sun* is found depreſſed 18 *degrees* beneath the Horizon, therefore the Angle *n f s* ſhall be found 18 *degrees*, and *L f h* 162, and *T f h* or *T f L* 81 *degrees*, and *L T f* 9 *deg.* whence *T f* is found about 874 *German miles*, and the *altitude* of the *Air* 11 *miles*, as *Clavius* and *Nonius* make it. *Alhacen* and *Vitellio* make it 13 *miles*. See Scheme.

This ſo great an *altitude* of the *Air* muſt in no ſort be granted, when that other *Phænomenons* do repugn: Now that it is found ſo great according to that method, that happeneth from a falſe *hypotheſis* that they aſſume, *viz.* the ray *g h f*, which maketh the reflected *f L* to come from the very *Sun*: for this is falſe, becauſe that it cometh by reflection from another ray; for Example, *g L*. Now that to make the ſmall light in *f*, it is not neceſſary that the ray *f g* ſhould come from the very *Sun*, but another reflected ray may do the ſame, is proved from thence, that in the Occidental Air we behold the light before the riſing of the *Sun*; when yet it is certain, that no direct ray then cometh from the Sun *S* to the Occidental Air *m*, but from another point of the Air; for Example, from *f* and *o*, and ſo the reflected ray *L m* proceedeth from the incident ray *f m*, which very *f m* is reflected from the incident *g f*, and this *g f* from another *g L*, which perchance alſo cometh from another. Secondly, that alſo is worthy of note, That they have determined, that reflection is cauſed from the Air as from an hollow *Looking-glaſs*, the Center of whoſe cavity is *T*, *viz.* the ſame with that of the *Earth*: for this alſo is falſe, for the rays are reflected from the particles of the Air, no regard being had to the Center of the *Earth*, but according to the ſuperficies of thoſe *particles*: this is manifeſt from the ray *L m*, which ſlideth from the *Occidental* Air *m* to *T*; for if that it came from *M* as from the *hollow-glaſs* of the Center *T*, its incident ought to come from the quarter *x*; but now it cometh from *o*, or between *f* and *o*: therefore the ray *L m* is ſo reflected from the particle *m*, as the *figure* of it required. And there are in the Air *particles* of a moſt different figure, and therefore it is no wonder, if that divers reflections are here and there cauſed into all quarters.

Propoſition XXXIX.

It being ſuppoſed, that the light of the Twilight is not generated by a ſimple, but by a double reflection, to find thence the altitude of the Air, which may more agree with other Obſervations.

In the former *Propoſition* it is ſaid, that that ray *g h f*, which maketh the firſt reflection *f L* in the beginning of the Twilight, cometh not from the *Sun* it ſelf, but that it is alſo reflected in *g*; let therefore his incident be *g l* (which may touch the *Earth* in *p*, for ſo *L g* is the firſt ray that can come to *g*:) and this we place to come now immediately from the *Sun* it ſelf, yet by reaſon of refractions it may a little deviate, *viz.* let *Q L* be the very ray it ſelf of the Sun, *l p g* See Scheme.

the refract, $g\,h\,x$ the reflex, $f\,L$ the second reflex. The *altitude* of the Air $T\,x$ is to be found out; because that therefore the ray $g\,l\,x$ is the refract of the incident $Q\,L$, let us suppose the refraction to be made 30 *minutes*, *viz.* the Angle $Q\,l\,x$: moreover, the Center of the *Sun* to be 17 *degrees* beneath the Horizon, when that the Twilight beginneth; therefore the Limbus of the *Sun* Q, which shall be distant beneath the Horizon 16 *deg.* 45 *min.* and 30 *min.* being taken away by reason of refraction; the Angle $n\,K\,x$ 16 *deg.* 15 *min.* shall be the refracted depression of the Limbus of the *Sun* beneath the Horizon: And moreover, because that $K\,L$, $K\,p$ are equal, and also $f\,L$, $g\,p$, therefore $K\,g$, $K\,f$ are also equal, and the Angle $K\,f\,g$ is equal to the Angle $K\,g\,f$. Now both of them taken together are equal to the Angle $n\,K\,g$, 16 *degrees* 15 *minutes*; wherefore $K\,f\,g$ is 8 *degrees* 7 *minutes*, and $f\,T\,L$ is 4 *degrees*, and $T\,f\,L$ 86 *minutes*, whence is found that $T\,f$, 86½ *miles*. And therefore the *altitude* of the Air is found 1½ *mile*, which is far lesser than the *Mathematicians* formerly deduced from the Twilight, and it will yet be found far lesser, if that a threefold reflection be placed to make the beginning of the Twilight, which is not impossible; and this twofold or threefold reflection is more rightly admitted of for the cause of the duration of the Twilight, than that which *Kepler* alledgeth concerning the splendid matter in the vicinity of the *Sun*. See the other things concerning the time of the Twilight, and variation of Longitude, in the second part of this Book.

Proposition XL.

To find out the Altitude of the Clouds by a Geodetical *dimension.*

By a *Geodetical* dimension to find out the Altitude of the Clouds.

The Air being serene and quiet, let any point, or little Cloud more observable than the rest be taken, and measure the *altitude* of this, as the top of an high Tower, from two *Stations*; so that at the same time one Observer may be in one *station*, and the other in another: so you shall find the *altitude* of this Cloud, which is never found to exceed a quarter of a *mile*.

Proposition XLI.

To suppute the quantity of the Air, its altitude being given.

This is nothing else, but to suppute the space between the *Earth* and the outward superficies of the *Air*, which is easie, if so be that we know the *altitude* of the Air: For let the solidity of the Sphere be supputed, whose Semidiameter is composed of the Semidiameter of the *Earth*, and the Altitude of the *Air*; and from the found out solidity, let the solidity of the *Earth* be taken away, that which is left is the solidity or quantity of the Air.

Proposition XLII.

The Air in some places hath some things peculiar.

Of Rains. In *Ægypt* it seldom or never raineth.

So in *Ægypt* it very seldom Raineth, or rather not at all: and if at any time a light Rain falleth, *Catarrhs*, distempers of the Lungs, *Feavers*, and other Diseases do follow. The inundation of *Nilus*, and almost a *quotidian Frost* in the Morning, do supply the stead of Rains. So in *Peru*, Rains are never seen. In many places under the *Æquator* it raineth for an whole half year, and in the other half it is fair. See in the Second Part, Chapter the 26*th*.

Also in *Peru*.

The Island *Pulon Timor*, is for the most part covered with *Clouds* and *Frost*.

The Air of *Sumatra*.

In the Island of *Sumatra* the Air is very heavy and cloudy, by reason of many standing-Pools. The like is in many other places: so in Old *Mexico*; also in *Malacca*, and the like.

The

The Isle of St. *Thomas*, lying under the *Æquator*, is reputed to have the most unwholsom Air of all Regions, although that it abound in all Fruits. St. *Thomas*.

In the Province of *Chili* the Air is so subtile, that a Sword sheathed in its Scabbard without any wiping, yet receiveth no rust. *Chili*.

In the Isles of the *Azores* the Air and Wind is so sharp, that it eateth plates of *Iron*; and the Walls, covered with the same, in a short space, and reduceth them to dust. Isles of the *Azores*.

Aristotle relateth, that on Mount *Olympus* there is no motion of *Air*, (yea no Air at all, if that that be true which followeth); and that Characters written in the Dust, are found there after many years without any disturbance; and that those that ascend that Mountain cannot continue their lives, except that they carry moistned Sponges with them, by the help of which they breath.

In *America*, when that the *Spaniards* passed through from *Nicaragua* into *Peru*, on the tops of the Mountains interposed, many suddenly died, or were frozen to death, with their Horses, like unto Statues, even unto the return of those that escaped. Some think, that a defect of *Air* was the cause; but that is not probable. Neither do I receive that for truth, which *Aristotle* writeth concerning Mount *Olympus*, because the contrary is found in higher Mountains, whose tops are covered with *Snow*. Whence we formerly conclude, that they are not above the Air, but that the Air floweth over them. *Busbequius*, an Eye-witness, declareth, that Mount *Olympus* in the Summer is also covered with *Snow*. See the Chapter of Mountains.

About the Isles of the *Indian Ocean* the Air is fragrant with the scent of the Odours, especially at that time when that *Aromaticks* are mature. *Mariners* discover this scent when that as yet they are three or four miles distant from these Isles, *viz.* when that a Wind contrary to their course bloweth. The Authors relation of the Mountain *Carpathus* in *Hungaria*.

The Air of the *Sea* is more heavy than that of the *Land*, and less acceptable unto those that are not accustomed unto it: the difference is manifestly discerned when that *Mariners* approach near the shoar; for by the distance of an whole mile they will discover how nigh the Land they are, by the very Air. *Mariners* relate this especially concerning *Soffala*, which is scituated in the Oriental Coast of *Africa*.

When that I had printed these, I hapned by chance on a certain Observation made by *David Frælichius* on the Mountain *Carpathus* in *Hungaria*, which because it made not a little to the confirming our Judgment concerning the *altitude* of the Air, and the constitution of its Regions, I therefore have thought fit to annex it here, although it ought to have been adjoyned to the 18*th Proposition*. Of the Mountains of *Hungaria*, *Carpathus* (saith he) is the chief, by which vulgar appellation all the tract of the *Sarmatian* Mountains is denominated, which separate *Hungary* from *Rutheni*, the *Polonians*, *Moravians*, the *Silesians*, and that part of *Austria* which is on this side the *Danube*. Their more high and astonishing tops are in the Earldom *Sepusia*, at my Native Country, *Cæsariopolis*. Now by reason that they are almost covered with perpetual *Snows*, they are termed by the *Sclavonians*, *Tatry* or *Tarczal*, as it were the shaved and bald *Mountains*. And these Mountains, by reason of their roughness and precipices, far exceeding the *Italian* and the *Helvetian Alpes*, and those of *Tiroli*, are almost unpassable, and are seldom travelled over, except by the Searchers of Nature. Now I my self (that I may relate this by the by) in the Month of *June*, *Anno* 1615, being desirous to try and discover the height of these Mountains (with two others of my Associates) when being on the top of the *Mountain* with great pains, I thought that I had attained unto the uttermost height, of a sudden another sublimer Mountain offered it self, unto which I arrived through vast and tottering Stones, which if moved falleth down towards the Valley, and that with so great a noise to the astonishment of the Passenger. After I was ascended, another more high was discovered by me, and so some lesser tops, the latter of which always exceeded the former in *altitude*, through so many Valleys was I forced to pass, with the great hazard of my life, until I had arrived unto the uppermost top of all; and when that I surveyed the Valleys beneath beset with

with huge Trees. From the declivities of the Mountains, I could obſerve nothing but an obſcure Night, or a blewiſh colour, like unto profound Air; and it ſeemed to me, that if I ſhould chance to fall from the Mountain, that I ſhould not light on the Earth, but fall directly into the Firmament: For by the overmuch declivity, the viſible Objects were extenuated and dulled. But whilſt that I aſcended a more high Mountain, I was pendent, as it were, amongſt moſt thick Miſts. Having overcome theſe, after the ſpace of ſome hours, when that I was not far from the higheſt top of all, repoſing my ſelf, from aloft I beheld and diſcovered, that in thoſe places, where I ſuppoſed my ſelf before to be lodged amongſt Miſts, that there moved compacted and white Clouds; above which for ſome miles, and beyond the bounds of *Sepuſa*, I had a commodious proſpect. Yet alſo I ſaw ſome Clouds higher, likewiſe ſome more low, and alſo ſome equally diſtant from the *Earth*. And hence I underſtood three things: 1. That then I had paſſed the beginning of the Middle Region of the *Air*. 2. That the diſtance of the Clouds from the *Earth* was not equal, but according to the mode of the Vapour, in ſome places higher, and elſewhere more low. 3. That the diſtance of the Clouds near the *Earth*, was far leſſer than what ſome *Philoſophers* do determine, and that not 72 *German miles*, but only half a *German mile*. When that I came to the higheſt pitch of the Mountain, I found the *Air* ſo calm and ſubtle, that I diſcovered not the motion of an hair; when yet notwithſtanding, I had found in the more depreſſed parts of the Mountain a vehement Wind: whence I gathered, that the higheſt top of this Mountain *Carpathus* ariſeth a *German mile* from its lower root or *baſis*, and extendeth to the ſupream Region of the Air, unto which the Winds aſcend not. On the top I fired a Piſtol, which gave no greater a Report at firſt, than if I had broken a ſmall Stick; after a ſhort ſpace of time, a great rumbling or murmuring increaſed, and filled the lower parts of the Mountain, Valleys and Woods, like unto the report of a Canon: (here I feared, leaſt that the whole Mountain being ſhaken, ſhould have fallen with me;) and this noiſe continued for about half a quarter of an hour, until that it had penetrated the moſt obtruſe Caverns, at which the Air being multiplied on every hand rebounded. And indeed ſuch concave Objects did not preſent themſelves on the top of the Mountain; therefore the ſound at firſt was repercuſſed almoſt inſenſible, until that by deſcending it became more near to the Caves and Valleys, it moreforceably ſtruck againſt them. Alſo in theſe high Mountains, for the moſt part, in the midſt of Summer it *Snoweth* or *Haileth*, when that it *Raineth* in the adjacent Plain; as I alſo my ſelf have found. The *Snows* of divers years may be known from their colour and hard Cruſt.

Three things obſerved by him.

CHAP.

CHAP. XX.

Of the Winds in general, and the Quarters of the World.

A Certain affection of the Air is the *Wind*, and therefore the conſideration of the ſame doth appertain to the abſolute contemplation of the *Earth*, eſpecially ſeeing that its cognition is required in *Hydrography*, and moſt of all in the Art of *Navigation*, which is a part of *Geography*: which although I grant more to belong unto *Natural Philoſophy*; yet becauſe that it containeth many things belonging unto *Geography*, therefore I ſhall briefly treat of the ſame here.

Propoſition I.

The Wind is a commotion of the Air, ſenſible by touch, or with ſome force.

So I think it may be defined with the conſent of all Nations: neither ſhall I here contradict ſome Conceited perſons. If that the commotion be higher, it is termed an *Air* or *Breez*; but if that the agitation be ſo ſmall, that of it ſelf it aſſerteth not the ſenſe of Touching, then it is not termed a Wind: And the Air is never without ſuch an agitation of *particles*, as a ray of the *Sun* let into a Chamber by a narrow paſſage, doth evidence; therefore we add the word *Touch* in the Definition, for that motion of the *Atoms* is only perceivable by the Eye.

Of the Wind.

Propoſition II.

Moſt Winds tend from one quarter to the oppoſite quarter, and force Bodies with them.

This is perceivable both from the force of the *Winds*, or our *Bodies*; and alſo from the *Vanes* fixed on the top of the *Maſts* of the *Ships*, which are extended by the Wind to the contrary quarter.

Winds force Bodies with them in their motion.

Yet this is not done altogether directly and continually, but with ſome motion of the *Vanes* hither and thither. There are ſome that ſuppoſe, that we ought to have added in the Definition, A commotion made towards one quarter, or towards the ſame parts: But we thought theſe more fit to be omitted, ſeeing that alſo ſome circular *Winds* are found, and to ſpeak properly, no *Wind* conſtantly obſerveth the ſame quarter.

Propoſition III.

A Quarter is an imaginary point, which we conceive to be extended from any place of the Earth perpendicularly, towards one point of thoſe which circularly ſtand about that place.

Of Quarters.

Such the true and common Notion ſeemeth to be; in the finding out of which I have not a little endeavoured: ſometimes the *Points* ſtanding about are termed *Quarters*.

Indeed the Explication of the *Quarters* doth not belong unto this Section of *Geography*, but unto the third, concerning the *Compleat Affections*; but becauſe that the ſorts or kinds of *Winds* are denominated from them, or theſe from the *Winds*, therefore here we ſhall anticipate that Tractation. Now this is the uſe of the *Quarters*, that ſeeing various things and appearances do appear in a various ſituation from ours, we may be able to explain the ſame.

Propo-

Proposition IV.

The Quarters are infinite in number, seeing that Plains may be drawn through every point of the Horizon; but only 32 *have obtained peculiar appellations at this day, which are also common to the Winds, that blow from such Quarters.*

But 32 particular Winds.

The *Quarters* are twofold (as also the Winds) *Cardinal* and *Collateral*; the *Cardinal* are those which pass through by the four circumstantial *Points* depending on the daily circumvolution of the *Stars*. Such are the *North*, *South*, *East* and *West*: by which names, both the *Quarters* and also the *Winds* are designed. For we say, the North and South *quarter* and *wind*, the West, South, East *quarter* and *wind*: and the Winds are called by one term *Aquilo* or *Boreas*, the North-wind; *Auster* or *Notus* the South-wind; *Eurus*, the East; *Zephyrus*, the West-wind. Those are collateral which stand between two *Cardinal Winds*, of which there are infinite. At this day are accounted only 28, *viz.* seven between two *Cardinal Winds*, as between the North and East, the East and South, the South and West, and the West and North. Of these intermedial ones, four are primary *Quarters* or *Winds*, *viz.* that are exactly in the middle between the *Cardinal* ones, and are distant from them 45 *degrees*, which are the North-east, the South-east, the South-west, and the North-west.

Proposition V.

These 32 *Quarters are equally distant one from another*, viz. *every one from that which is next; whence it cometh to pass, that* 11 *degrees of the Horizon, and one quarter, do intercede between two quarters. The Cardinal Quarters are distant from one another* 90 *degrees.*

The 32 Quarters are equally distant one from another.

For seeing that the *Horizon*, as a Circle comprehending all the *Points* about any place, hath 360 *degrees*, as all other Circles; if that 360 *degrees* be divided between 32 *Quarters*, every one shall receive 11 *degrees* 15 *minutes*; but if that they be divided amongst four *Cardinal Quarters*, every one of those *Cardinals* shall receive 90 *degrees*. Therefore the *quarter* from the *North* towards the *East* is the first, which is distant from the *North* towards the *East*, 11 *deg.* 15 *minutes*: the second, which is 22 *deg.* 30 *minutes*: the third, which it 33 *degrees* 45 *minutes*: the fourth, which is 45 *degrees*; this is in the midst: and so in the other *Quarters*.

The terms given to these 32, both *Quarters* and *Winds*, by the *Germans*, are most commodious; but are very difficultly imitated by other Tongues. Therefore you may see the order of the *Quarters* in the Table annexed with their *degrees*. We have also added the *Latin* and *Italian* appellations.

Proposition VI.

Now because as yet Intervals very great interceded between the two Quarters, from which the Winds may blow, and in which other Bodies are often placed, the scituation of which unto our place we desire to know; therefore some cut twice every one of these 32 *Quarters, and interplace one, so that they reckon* 64 *Quarters and Winds, which some Mariners observe in long Navigations.*

The 32 Quarters, by some divided into 64 Quarters.

But *Mathematicians*, seeing that these do not sufficiently suffice to an accurate designation, they reckon so many *quarters* as there are *degrees* and *minutes* in the Horizon, and they denominate and design them by the number of the *degrees* and *minutes* by which they are distant from any *Cardinal quarter*; or by how much the *Arch* of the Horizon is intercepted between the *Cardinal*

Cardinal quarter, and any point of the *Horizon*: so the quarter of the first degree, from the South towards the East, and the like. But in the *Sea-mans* observation of the Winds, so subtle a division ought not to be required.

Yet a Mode may be thought on, by which the 32 *Winds* may more commodiously be denominated, that it may be easie to the Tongue and Speech of all Nations, *viz.* if that they be named from the order in which they mutually follow from one *Cardinal quarter* to the other.

For Example; the first from *South* to *East*, or the first *South-East*; the second *North-East*; the third, fourth, and so on.

Proposition VII.

The Ancients both Greeks *and* Latins *reckoned less Winds, or that we may speak more truly, they imposed names on fewer Winds; neither do they consent in these, but call the same Winds by divers names, which they took not from the Order, but from somewhat else. Whence there ariseth no small difficulty concerning their distribution of the VVinds.*

The Greeks and Latins reckon fewer Winds than twelve.

In time past amongst the *Grecians* only four Winds had names, *viz.* the *Cardinal winds*; *Eurus* blowing from the East, *Zephyrus* from the West, *Boreas* from the North, and *Notus* from the South. Neither doth *Homer* make any other mention of the *Winds*. Then at length unto these they added four others, to wit, of those that blow from these quarters: 1. In the quarter in which the *Sun* doth arise, when the *Winter Solstice* is between the *East* and *South*, which quarter is called the *Winter Solstice* of the *East*: and the *wind* is termed *Eurus*; for they call the East-wind it self *Subsolanus*: but *Gellius* calleth it *Vulturnus*, and he will rather have the Eastern wind called *Eurus*. 2. In which the *Sun* setteth, which is called *Africus* and *Lybs*. 3. In which it riseth in the time of the *Summer Solstice*, between the East (*Eurus*) and the North, which quarter is called the *Solstitial* rising absolutely; and the wind is termed by them *Aquilo*. 4. In which he setteth in time of the *Solstice*, which quarter is termed the *Summer* or *Solsticial* setting of the *Sun*. This *wind* was termed by the *Grecians*, *Corus*.

The annexed *Diagram* representeth the Order of the *Winds*, according to the annumeration of *Seneca*, in the fifth Book of his *Natural Questions*.

See *Lib.* 5. of *Seneca's* Natural Philosophy.

Proposition VIII.

This designation of the Grecians *is very inconvenient for Navigation, and other uses, which inconveniency they did not much discover, when for a long space they departed not from* Greece *in their Navigations.*

For in places of a diverse Latitude, or of a diverse distance from the *Poles*, diverse also is the distance of the *VVinter* and *Solsticial* rising from the quarters, *North*, *South*, and so on. Yet the *Grecians* retained it, augmented with other appellations of the four intermedial Winds, so that there were 12 *winds*, every one of which they designed by their proper terms; although that some others reckon otherwise. The *Latins* besides these twelve, added the names of twelve more, which blow between two of the former twelve; the following *Diagram* sheweth their appellations and order, in which the *Greek* winds are noted by Greater letters, and those which the *Romans* have interposed between every two, are noted by Lesser letters: yet *Seneca* noteth, that this inconveniency was long since observed by *Varro*, and that therefore he ordered these twelve *VVinds* thus, that every two should be distant by equal distances, not having any regard of the rising of the *Solary quarter*; but in that *Seneca* affirmeth, that there are no more *VVinds* than twelve, is false and ridiculous, for they are infinite.

Proposition IX.

Hitherto we have explained the distribution of the Winds taken from the quarters; and have also shewed, that both the divisions of the Ancient Grecians *and* Romans, *is less adapted to the use of Navigation and Geography.*

Therefore we deservedly retain the more recent distributions, which constitute 32 *Winds* blowing from quarters equally distant. Now those are called *Opposite Winds*, or contrary, which blow from quarters diametrically opposite: For we conceive the *Winds*, as coming from another place to our place; but we suppose a quarter to be extended from our place to another place.

Proposition X.

The Causes of the Winds are various; for seeing that the Wind is nothing else but a continued protraction of the Air, all those things which are able to effect such a protrusion, will be the causes of Winds. Now they are these:

The Causes of the Winds are various.

1. The chief and general cause is the *Sun* it self, which attenuateth and rarefieth the *Air* by his fiery *beams*, especially that on which he sendeth forth his perpendicular rays, or over which he standeth; for the *Air* being rarefied requireth far more space. Thence it cometh to pass, that the *Air* being forced by the *Sun*, doth protrude the vicine *Air* with a great force; and when that the *Sun* is moved round from the East into the West, the chief force of the *Air* caused by him is towards the West. And a sign of it may be, that in many places of the *torrid Zone*, and every where in the *Sea*, a continual Easterly *wind* doth blow, *viz.* the *Sun* thrusteth forwards the *Air* from the East towards the West, and exceedeth not the *torrid Zone*. Indeed the rarefied *Air* is thrust forwards circularly towards all the quarters, *North*, *East*, *South*, *West*; but yet it is not admitted in all quarters: But the more vehement protrusion is towards the West, because that the *Sun* moveth towards that quarter; therefore the *wind* is almost continually more sensible in the *torrid Zone* towards this quarter. But in our *Zone* for many days in the Morning before the rising of the *Sun*, and after that, where for the most part other Winds do cease. Of other *quarters*, some are sometimes more disposed than others to receive this force: therefore where the protrusion becometh greater towards the North, the South *Wind* is said to blow; when that it is thrust towards the East, then the West *Wind* bloweth; when towards the South, the North, and so for other *quarters*. And it is to be noted, that when this protrusion is made to any quarter lying without those four *Cardinal Quarters*, then in divers Regions a diverse *Wind* shall be seen: For although that that quarter be one in respect of the place unto which the *Sun* is vertical, yet in respect of other places it is diverse; and so the same cause maketh the same *Wind* to be termed by divers names in several Regions. Now this cause is either assisted or hindred by other causes; if that it be assisted, it maketh the *Wind* vehement; if it be hindred, it maketh it less vehement from that quarter, and oftentimes another *Wind* then bloweth, which is rather assisted by that general cause. 2. I make the second cause of the *Winds*, and that more frequently, *Exhalations* elevated copiously, and with a violence from the Sea and Land; but they scarce cause any *Winds*, except that when they begin to be rarefied. 3. The attenuation and rarefaction of the *Clouds* and *Mists*, whether that it be caused by the *Sun*, or from other Stars; or whether from included or adjoyned *fires*, or *sulphureous particles*. 4. The dissolving of *Snow* and *Ice*, especially of that which lieth on Mountainous places, and are not wholly dissolved into *water*. 5. The various situation and rising of the *Moon* and the other *Stars*. 6. The condensation and rarefaction of the *Air* and *Vapours* by any heat or cold. 7. The descent of the *Clouds*, by which the subjected Air is pressed.

The

The consideration of the *Æolopilæ* conduceth much to the more easie understanding of these causes, into which the *water* included, *fire* being put to it by a narrow orifice, sendeth forth the *winds* with a great force, until that all the *water* be exhaled. Now these retain the place of a narrow orifice in the Air; 1. The more dense circumstantial Air. 2. If that the same vicine Air be forced by, or prohibited to give place by other Vapours or Mists. 3. If that the Air be more condensed towards one quarter, and so layeth open a way to Blasts.

Proposition XI.

Why the Winds blow so that they make a perpendicular line over the Horizon; or why the going forth of the Winds is perpendicular to the Horizon.

The *winds* so blow, that they make a perpendicular line over the Horizon.

The cause is, by reason that the *Air* in a *Spherical figure* doth encompass the *Earth*, and the protrusion of the *Air* is made for the most part through the greatest circle of the *Sphere*, which passeth through the Center of the *Earth*: for although we may suppose the *Air* to be forced according to a transverse *line*, yet because that there is a lesser force from the sides, and greater resistance; thence it cometh to pass, that the *winds* incumb into the midst of the passage. But we shall more commodiously conceive this mode, if that we do but consider the first cause of the *winds*: for the *Sun* thrusts forwards the Air towards all the quarters of that place, unto which it is vertical; but that force is not received in all, as I have said. If that now we consider the great Circles drawn from that place, and amongst these, those in which the Air is thrust forwards, all those places of the *Earth* seated in this *circle* or *semicircle*, shall find the *wind* falling down perpendicularly, by reason that every great Circle of the *Earth*, passing through any place of it, is perpendicular to the *Horizon* of that place. The same is the reason, if that at any time the *wind* breaketh forth from a thick *Fog*, or dissolved *Clouds*; but those places that are scituated without these Circles, feel not the *wind*; although that the *Air* be moved above their Horizon; because that it is not perpendicular to that Horizon, but oblique.

Yet it is not general, that the *wind* proceedeth in a perpendicular way to the Horizon, because that oftentimes in the *Air* transverse Blasts are found. So we see, that Smoak coming forth of a *Chimney*, is not carried by the *wind* towards one quarter, but part of it is carried unto other quarters.

Proposition XII.

Why the Winds blow by an interrupted force, so that sometimes they cease, and other some, as it were, with redoubled strength they return with the greater importunity: And why that they seem more continually to blow on the Sea, so that it is discovered less calm.

The *winds* blow by an interrupted force.

I suppose the reason to be, that the cause that moveth or stirreth up the *Winds*, continueth not always, but that some space is required unto the collection of such a quantity, which by such a vehemency may break through the *Air*; and therefore, because that *Exhalations* are more continual in the *Air*, and the motion is less impeded, there the calm in the *Ocean* is less discovered, although that it be not wholly removed.

Propoſition XIII.

Why no Wind bloweth perpendicularly from the Air unto the places of the Earth.

See *Ariſtotle*, lib. 2. chap. 9. of *Meteors*.

Concerning this queſtion, *Ariſtotle* in his *Second Book, Chap.* 9. of *Meteors*, treateth very abſurdly; ſo that the *Peripateticks* are not agreeing concerning his Opinion: neither ſhall I in this place relate their *Sentiments*. The cauſe ſeemeth eaſily to be explained, *viz.* that the *Air* being thruſt downwards towards the Center of the *Earth*, cannot break through this way, by reaſon that other vapours are expelled or born upwards; and therefore the overmuch reſiſtance of the *Air*, which is directly ſcituated under the *Air* moved, cauſeth the protruſion to be made to the ſides of the place in which the violence beginneth. Which is therefore the more probable, ſeeing that the matter of the *Wind* is for the moſt part more light than that *Air*, and that is more rarified than that which is more near unto the *Earth*.

Propoſition XIV.

Why Weſterly-winds are leſs frequent than Eaſterly-winds.

See *Propoſition* 10.

The cauſe of this is manifeſt from the *Tenth Propoſition*, where we have made the *Sun* to be the firſt cauſe of *Winds*, who ſo rarifieth the Air proceeding from the Eaſt to the Weſt; and therefore the Air is more thruſt towards the Weſt. Therefore that this general cauſe may be impeded, of neceſſity very many *Exhalations* muſt conſiſt in the Weſtern-quarters, which doth happen leſs frequently.

Propoſition XV.

Why the Northern and Eaſtern-winds are more impetuous and ſtormy: and on the contrary, the Southern and Weſtern more relaxed and weak.

The Northern and Eaſtern *winds* more ſtormy, than the Southern and VVeſtern.

The cauſe is by reaſon that the *Northern Air* is more thick, by reaſon of Cold; and the *Southern* (in our *Zone*,) by reaſon of the greater diſſipation cauſed by the *Sun* and *Heat* is more rarified. Now by how much the *Air* is more rarified, by ſo much the leſſer is it carried with an impetuous force. Yet you muſt know, that the *South-winds* are cold, dry and violent in the *Temperate Zone* or the *Artick Zone*, oppoſed to ours, no leſs than the *Northern-winds* are unto us; but the *Eaſtern-wind* is more rigid, or more intenſe for another cauſe, *viz.* becauſe that it ariſeth for the moſt part from the refraction of the Air, made by the *Sun*, which being continually carried from the Eaſt to the Weſt, the Air alſo is thruſt forwards with the greater violence from the Eaſt to the Weſt: But it is probable that other cauſes may accede, that may either help or obſtruct that violence.

Propoſition XVI.

Why the Southernly and Weſternly-winds are found more hot than the Eaſternly and Northernly, which have a wonderful power of cauſing Cold in reſpect of them.

The Southern and VVeſtern *winds* are found more hot, than the Eaſternly and VVeſternly.

So this Queſtion is wont vulgarly to be propounded; yet we muſt know that it muſt not generally be underſtood of all places, but only concerning the places of our *Zone*: For in the other *temperate Zone* ſcituated towards the South from the *Æquator*, the contrary holdeth true; becauſe that in theſe places the *Northern-winds* are hot or warm, and the *Southern* are found more cold. And ſo the nature of the thing, and the condition of the cauſe required:

For

For the reaſon why the *South-wind* is diſcovered more warm to us, and the *North* more cold, proceedeth hence, *viz.* that the *South-winds* come from a quarter and places more near unto the *torrid Zone*, or way of the *Sun*; but the *Northern places* more remote from that way of the *Sun*, that is, from more cold places. But the contrary is found in places ſcituated towards the *Antartick Pole* from the *Æquator*, becauſe that the *Northern-winds* approach to them from the way of the *Sun*, the *Southern* from the places more near the *Pole*.

But as concerning the *Eaſtern* and *Weſtern-winds* I muſt anſwer otherwiſe, neither doth that diverſity of the places of our Zone, and that of the oppoſite, here take place: Therefore firſt, it is ſaid in the preceding *Propoſition*, that the *Weſtern-winds* are leſs frequent in all places; the cauſe of which is the ſame with that, by reaſon of which the *Occidental winds* are diſcovered more warm, *viz.* becauſe that for the moſt part they blow in the Night, and after the ſetting of the Sun, where the *Air* that is thruſt forwards towards our place, is more calid or leſs frigid, than the Air of our place, which is more remote from the Weſt, than that which lieth between the *Sun* and our place. There is alſo another cauſe (which alſo is of force in the difference between the *Northern* and *Southern-winds*) *viz.* that the *Weſtern-winds* blow with leſs violence, and not ſo intenſe, but with ſome relaxation. Now it is known, that any Air or Wind is diſcovered ſo much the more cold, by how much it bloweth with the greater or more intenſe force, although in truth it be no hotter or colder, which is evident by our expiration, which we can exhale either cold or hot.

Propoſition XVII.

Why Mariners from the ſight of a Cloud, eſpecially ſuch a one that is of a pale or duskiſh colour, predict a wind from that quarter: alſo to declare the other ſigns of future winds.

Mariners from the ſight of a Cloud, predict a *wind* from that quarter.

A twofold Reaſon may be rendred; for either *Clouds* of that colour do ſhew, that by and by they ſhall be diſſipated and diſſolved into *Blaſts*: or elſe the *Clouds* ſinking by their own weight, and ſegregated from other *Clouds*, preſs down the *Air* beneath them, and ſo cauſe it to blow. Concerning the peculiar *Clouds*, termed by the *Dutch* the *Bulls-eye*, ſee the following *Chapter*.

1. The *Sun* appearing ſpotted in his riſing, and lying obſcured under a pale or black *Cloud*, foretelleth either *ſhowers* or *winds*. 2. If that the *Sun* at his riſing appeareth concave, ſo that it ſhineth from the middle and ſendeth forth *rays*, it ſignifieth a *moiſt* and *windy ſeaſon*. 3. If that the *Sun* be pale in his ſetting; but if it be red, the *Air* will be quiet and ſerene the next day. 4. If the *Sun* being pale ſetteth in black *Clouds*, it ſignifieth a *North-wind*. 5. If that the *Moon* be red like unto gold, it is deemed a certain ſign of a *Wind*, according to the Verſe,

Pallida Luna pluit, rubicunda flat, alba ſerenat.

6. A circle about the *Moon*. 7. If that the Northern-horn or corner of the *Moon* appear more extended, a *North-wind* is approaching: 8. If that the Southern, a *South-wind* is at hand. 9. The riſing of the *Moon*, and the more noted *Stars*; as of the *Bear*, *Orion*, and eſpecially the *Goats*, with the *Sun*. 10. If the ſmall Stars in *Cancer*, termed *Aſellos*, be covered with a *Cloud*, if the Northern of them be covered, the *Wind* will be South; if the Southern be covered, it will be North. 11. For the moſt part *Winds* begin to blow, when that the Wind ceaſeth. 12. When a certain noiſe and murmur, like to an Ebullition, is heard in the Sea. 13. The *Ancients* alſo prognoſticated from the *Raven*, the *Dolphin*, and other *Animals*. 14. From fiery *Meteors*, as from *Lightning* and *Falling-Stars*; but not from the *Ignes fatui*.

Propo-

Proposition XVIII.

Why in the Spring and Autumn the Winds are more frequent, and blow with greater force, than in the hot Summer or cold Winter.

Greater and more frequent *Winds* in Spring and Autumn, than in Summer and cold Winter.

In the *Spring* it is supposed to be partly by reason of the dissolving of *Snow*, especially in Mountainous places; partly, because that the Pores of the *Earth* are then opened, and send forth many exhalations: partly, because that the Air and Vapours are then more thin, when that they were condensed in the *Winter*. Add, that for the most part in the Month before the beginning of the *Spring*, and in the very *Spring*, many Rays do fall, by reason that humid Constellations then have possessed those houses of the *Zodiack*, into which on the entrance of the *Sun* we account the beginning of the *Spring*; and also in *Autumn* the frequent Rays and Exhalations are to be accounted the cause of the *Winds*, as well as in the *Spring*, by reason that a moderate heat proceeding from the *Sun*, advanceth the Vapours and Exhalations; yet such as are more thick and less attenuated. But in the heat of *Summer* there are no *Winds*, for the most part, for the same reason, by reason of which Rays are very seldom seen at that Season, *viz.* because that the *Sun* overmuch attenuateth the Exhalations, and doth not permit them so to conjoyn or meet in such a quantity, as is required to the generation of the *Winds*. Which cause is not general or always true: and neither is it generally true, that in the heat of *Summer* there are no *Winds*; for here we are only to understand it concerning that which oftentimes happeneth: But in the sharp *Winter* the *winds* are more rare, and that by reason that both fewer Vapours are raised from the *Earth*; and those also that are elevated, are either condensed into Clouds, or are so dissipated by *Frost*, that they cause no *wind*.

Proposition XIX.

In what Altitude of the Air, or in what Region of the Air the Winds begin to blow.

In what Region the *winds* begin to blow.

There are some that suppose the *winds* not to exceed the lower Region of the *Air*, because that they discover, that the tops of the high Mountains, as *Olympus*, feel no Blasts. But I question the Observation, seeing that the Smoak cast forth from the top of Mount *Ætna*, is discerned to be moved to and fro by the *wind*: therefore I suppose, that such a windy commotion may be caused also in the upper Region of the *Air*.

Proposition XX.

Unto what space one and the same Wind may extend it self.

How far one and the same *Wind* may extend it self.

There is great diversity in this matter; for the *winds* blowing from the East to the West, under the *torrid Zone*, seem to encompass the whole *Earth*: and those also that blow either from the North or South, for many days and long spaces, are wont to accompany and follow *Mariners*. The same seemeth true concerning collateral Lines; but this diversity is, because that the same *wind* is different in divers places, as we have shewed in the *Tenth Proposition*, in the end of the explication of the first cause.

CHAP.

CHAP. XXI.

Of the Winds in particular, and Tempests.

IN the foregoing Chapter we have alledged the distribution and differences, or rather the denominations of the *Winds*, which they receive from the quarter from whence they blow, or seem to blow; which division also is accidental, by reason that they are taken in respect of a certain place of the *Earth* unto which those Quarters are related. Now in this Chapter we shall alledge the divisions and *Phænomena* which are in a certain time of the year, or else are proper to certain tracts of the *Earth*, although that we desire to have more, and those likewise more accurate Observations concerning these things. But we will produce what we have collected with much labour from the *Diaries* of the *Seamen*.

Proposition I.

One Wind is constant, and another inconstant.

Of Winds constant and inconstant.

That is a constant *wind*, which at the least for one or two hours bloweth from the same quarter.

That is an inconstant *wind*, which sometimes bloweth, and other some is changed into other *winds* blowing from other quarters.

The causes of the more or less duration of the same *wind*: also of the swift immutation seemeth to be, 1. if that it be from a general cause, or from a cause less constant. So *Winds* proceeding from the motion of the *Air*, with the motion of the *Sun* in the *torrid Zone*, are constant: so those also that blow from the dissolving of the *Snow*, especially in the Mountains. 2. If that by chance there be no such vapours in other quarters, which are apt to generate *Winds*. 3. If that the circumambient Air about the *Cloud*, of which the *Winds* are generated, be more thick, and granteth no passage to the *Exhalations*: but if that the Air be not so thick, or more relaxed, and that few *Vapours* be here and there in divers places and quarters; and lastly, if that the general causes do cease, then indeed the *Winds* are found variable, which are for the most part gentle.

Proposition II.

One Wind is general, and another particular.

Of general and particular Winds.

The general Wind is termed by *Mariners* a *Passant wind*, which at many places at once, in a long tract of *Earth*, bloweth on the Sea almost for a whole year. That is termed a particular on the contrary, which bloweth not at once in many places for a whole year.

Now a *general Wind* is hindred, 1. In the parts of the Sea near the *Earth*; for here *Vapours* from other quarters do interpose or force in: and therefore a general Wind is considered, especially in the midst of the Sea, most remote from the Land. 2. Yet another *wind* may also blow in the midst of the Sea, *viz.* if that in another a *Cloud*, or other cause generating of a *wind*, be very great. From these two Causes it happeneth, that a *general wind* is less or more constant, or continual in divers places.

Now the *general winds* are only found in the Sea of the *torrid Zone*, or that which lieth between the *Tropicks*, about the whole *Earth*; yet in some places it extendeth it self without the *Tropicks* the space of 7 *degrees*, and they are called *Eastern*, that is, the East-wind or collateral to the East, as the *South-East*, *North-East*, *viz.* which blow from the East towards the West

for

for the whole year. But they do not consist with the like constancy in all the parts of that Sea; but in some they are more hindred, and in some less. They are more constant in the *Pacifick Ocean* (*viz.* in that part of it which lieth between the *Tropicks*,) so that Ships that loose from the Port of *Aquapulco* in *New Spain*, in *America*, towards the *Philippin Isles*; that is, such as steer their course from the East to the West, oftentimes for 60 *degrees* Sail continually, without any alteration or furling of the Sail, with a constant East, or North-East wind; neither unto this day hath any Ship in that most long Voyage (of 1650 *miles*) been cast away. Whence the *Mariners* say, that they may sleep securely in this Voyage; neither is there any need of guiding the Ship, seeing that the general Wind bringeth the Ship to the wished Port: for here other *winds* do impede the general Wind. The same constancy of this same *Easterly wind*, is found in the Sea from the Cape or Promontory of *Good-hope* in the bounds of *Africa*, or rather from that procurrent part of *Africa* which lieth in the *Torrid Zone* even to *Brazil*; in the midst of which Voyage lieth the Isle of St. *Helena*, unto which *Mariners* returning from *India* unto *Europe*, are wont to direct their Course. The Isle of St. *Helena* is distant from the Promontory of *Good-hope* 350 Miles, and is oftentimes accomplished in sixteen days, or also in twelve (as the *general wind* is either vehement or slack, for in this there is not a perpetual likeness) the *Sea-men* using the same security (when that they have first sailed to the Parallel of that Island, for the Promontory of *Good-hope* lieth without the *Tropicks*) which we have said that they use, who Sail in the *Pacifick Ocean*, from *Aquapulco* to the *Philippins*: yea, when that they have passed the Promontory of *Good-hope*, they judge themselves to have escaped all danger and variation of the *winds*, and sleep securely, the *wind* constantly filling their Sails towards that Island and *Brazil*: But yet this only is their great care, that they may not Sail beyond the Island, seeing that it is a very small one; for if that they have passed it the eighth part of a mile, they cannot regain it, *viz.* an *Easterly wind* forcing them towards the West: therefore then they are forced with great loss of their Voyage to make to the Coasts of *Brazil*, or the other Isle called *Ascension*, to *water* at. If then you demand by what course they Sail, when that the Ships make a contrary Voyage in this Sea, *viz.* whilst that they steer from the *Philippin Isles* unto *New Spain*, or from *Brazil* and the Isle of St. *Helena*, unto the Promontory of *Good-hope*, whilst that they Sail from *India*; in these Voyages the Reader must know, that *Mariners* use a threefold mode; for either they navigate the Sea situated without the *Tropicks* (therefore they do not touch at the Isle of St. *Helena*, whilst that they Sail from *Europe* into *India*) or where necessarily they must pass by this, they do not directly steer their course from the West to the East, but obliquely from the North, the *Collateral quarter* of it, to the South or the *Collateral quarter* of it: or lastly, they choose such a time of Navigation in which they know, that that *general wind* is impeded often by others. But this latter, because that it happeneth rarely, therefore they rather make choice of the two former Modes, of which we shall speak more in the Chapter of *Navigation*.

Therefore there are two Seas of the *Torrid Zone*, in which that general *Oriental wind*, with its *Collaterals*, reigneth throughout the whole year, *viz.* that which lieth between the procurrent of *Africa* and *Brazil*: the other is that which is extended between *New Spain*, or rather between *America* and the *Oriental Islands*, of which the *Philippins* are a part. The third part of this Sea under the *Torrid Zone*, *viz.* between the Procurrent of *Africa* and the *Philippins*, or *Oriental Islands*, is not indeed destitute of this *general wind*; but oftentimes it is hindred in this Sea, by reason of the frequency of *Islands*, which hindrance yet in some places is more frequent than in other some. Between *Mozambique* and *India*, the *general wind* is of most force in *January*, *February*, *March*, *April*; in other Months other *winds* do blow, of which we shall speak in the following *Proposition*. This *general wind* is more hindred in the Sea of the *Indian Isles*. At the Isle of *Banda*, in the Month of *May*, the *Oriental winds* begin to be prevalent, being very violent,

violent, and accompanied with rain: at *Malacca* in *September*, and in other places otherwise, as we shall shew in the following Proposition. See Proposition 3.

Yet this you must know, that this general wind doth not equally extend it self in these Seas towards the *Tropicks* in all parts, but that there is a great difference in this. For the *Tropicks* are distant from the *Æquator* on both sides 23 ½ *deg.* but the general wind may be discovered in one *Meridian* unto the Latitude of 20 *degrees*, in another *Meridian* unto 15, in another unto 12.

So in the *Indian Ocean*, when in the Months of *February*, and *January*, the East wind, or South, or South-East bloweth, it is not discovered until you come to the 15 *degree* of Latitude. So unto those that Sail from *Goa* unto the Promontory of *Good-hope*: here a general wind meeteth them at the 12 *deg.* of South Latitude, and at the 28 *degree* of the same Latitude accompanieth them.

So also *Mariners* have observed that no general wind bloweth between the 4. *degree* of Northern Latitude, even unto the 10, or 11 *deg.* between *Africa* and *America*; for when they have Sailed by that wind from St. *Helena* towards the *Æquator*, even unto the 4 *deg.* of Northern Latitude; then are they destitute of that wind, even until they come unto the 10 *degree* of Latitude. And from that *degree*, even unto the 30, the North-East is again manifestly found continually to blow, although that the 30 *degrees*: be 7 *degree* from the *Torrid Zone*. Yet notwithstanding in the 6, 7, and 8. *degree* of Parallel Latitude it also bloweth in some places, but in all places almost in the Parallels of the 10 *deg.* even unto the 30 *deg.* North. After the same manner beyond the *Tropick* of *Capricorn*, in the Sea between the Promontory of *Good-hope* and *Brazile*, the South-East wind bloweth even unto the 30 *deg.* of Latitude, that is 7 *degrees* beyond the *Torrid Zone* towards the South, and that through the whole year.

And although as we have said, that this general wind is not discovered on all Coasts, much less in *Mediterranean* places, yet in some it is sufficiently observable. So on the Coasts of *Brazile* Easterly unto the Coasts of *Loango*, the South-East is a Quotidian wind, although that other winds do admix themselves.

There is a threefold Cause of this continual general wind alledged by Modern *Philosophers*, (for both it, and the *Torrid Zone* were unknown to the Antients, who have not so much as mentioned it). Some Determine that the *Sun* is the cause of this wind, blowing from the East to the West; by reason that by its great faculty it rarifyeth the *Air* in the *Torrid Zone*, and so it thrusteth it forwards from the East to the West, seeing that the *Sun* it self goeth this way.

Some and those of the Opinion of *Pythagoras*, that Determined the Heaven to stand still, and the Earth to moved round; some of them I say, supposed this general wind to Proceed from hence, *viz.* that whilst the Earth is moved round, and the *Air* with it; this less followeth the motion of the Earth, but is somewhat more slower to motion: and therefore whilst that we are carried with the Earth from the West to the East, the *Air* moved with less celerity to the same quarter, seemeth to meet us, and to be moved from the East to the West, when that yet we do rather meet it.

Des Cartes alledgeth the third Cause, and that altogether new in the 222 *Proposition* in his *Principles*. Where he endeavoureth to shew that the *Moon* causeth this motion, as well as the motion of the *Sea* from the East to the West. But because that his Opinion cannot be understood, except that all his *Philosophical Hypotheses* should be Explained; therefore we shall say nothing concerning it here, especially seeing that we shall shew in another place, that that Cause is not true. I approve of the first Cause; the second seemeth therefore not to be received, because that many *Copernicans* approve not of it; and no reason can be given, why this wind should be found to blow only between the *Tropicks*, or to the 30 *deg.* of Latitude, and not in the whole *temperate Zone*. See *Des Cartes* in his 222 Proposition of his Principels.

Propoſition III.

Some Winds are Periodical and fixed, others wandering and Erratick.

Some winds fixed, others wandering.

Thoſe are termed fixed, and periodical, which blow on certain daies, and then ceaſe for a certain number of daies, until that they begin to blow again. Some return in the ſpace of half a year; otherſome are Monthly, which return in the interval of one or two Months. Alſo the fixed *winds* are otherwiſe ſubdivided, *viz.* ſome when that they begin to blow, continue for ſome Months, others for half a year, others for a Month, others for a few daies.

Amongſt theſe thoſe are chiefly obſerved by *Mariners*, which blow for ſome Months in certain places of the Sea, (and they call theſe *winds*, as alſo the times wherein ſuch *winds* blow, *Motions*, or *Mouſſons*). And ſuch Motions are more eſpecially notable in the *Indian Ocean*, from *Africa* to the *Philippine* Iſles, although that they be not wanting in other places: there is a very great moment to be placed in the obſervation of theſe Motions; for *Seamen* ought to chooſe the time of them for the Voyage that they intend to that ſame quarter, (or that which is collateral unto which that *wind* bloweth;) neither to undertake a Voyage to the *quarter* of this Motion, but to expect the contrary Motion. For in the parts of the *Indian Ocean*, where that one *wind* ceaſeth to blow for ſome Months, another ſucceedeth contrary to the former, and continueth with the ſame conſtancy, until that it hath compleated its time, and therefore they call theſe, Contrary Motions. They term thoſe the time of the mutation of thoſe Motions, which intercede between the end of one *Mouſſon*, and the begining of the contrary. For one Motion ceaſing, another doth not preſently begin to blow, but ſome days fall between, ſome times more, ſometimes fewer, alſo more in ſome places, and fewer in other ſome. And in theſe intermedial *daies*, in which no certain Motion bloweth, the *wind* is variable; the calm dangerous, and for the moſt part the Sea is toſſed with uncertain *waves*, and ſudden Tempeſts ariſe: ſome of theſe Motions return twice in a year, but not with the ſame vehemency, whence *Mariners* term the one the great Motion; the other the leſſer.

Months moſt fit to take a Voyage from *Europe* to *India*.

1. In that part of the *Atlantick Ocean*, that lyeth in the *Torrid Zone*, as alſo that which is in the *Temperate Zone*, the North *wind* perpetually bloweth in the Months of *October*, *November*, and *January*. And therefore theſe Months are chiefly fit to undertake a Voyage in from *Europe* to *India*; that they may paſs the *Æquator* by the help of thoſe *winds*. For it is manifeſt by experience, that ſome Ships that have ſet Sail from *Europe* in *March*, have arrived no ſooner at *Brazile*, than thoſe that have ſet Sail in *October*; *viz.* both of them have come thither in the Month of *February*, being helped by the North *wind*. Yet becauſe that this *wind* is not ſo continual and certain, therefore *Mariners* are not wont to call it a Motion. Neither is it an eaſie matter to render a cauſe of this *wind* in theſe Months, unleſs you will refer it to copious thick *vapours*, or to a continnual preſſure made from thick Clouds. But thoſe that have wintered in *Nova Zembla*, teſtifie that there is a moſt frequent North *wind* all the time of the *Winter*, where this effect cannot be aſcribed unto the *Sun*, rarifying the *Air*, ſeeing that he lyeth obſcured under the *Horizon*. Yet I ſuppoſe that in general the Cauſe may proceed from the diſſolving of *Snows* or groſs *Vapours*, or *Clouds*, collected in the *Winter* in the Northern and Southern places, eſpecially on the Mountains. Which I am induced to believe by this Argument more eſpecially, becauſe that theſe Motions blow for the moſt part from the North and South *quarters*, or the Collateral unto them. Therefore by reaſon that *Snow* and thick Clouds are diſſolved in the Northern places by the *Sun*, eſpecially in that half of the year in which he paſſeth through the North part of the *Ecliptick*; therefore thoſe Motions ſhall then be Northernly. After the ſame manner in the Southern

Southern or *Antartick* places for the other half of the year, the *Sun* diſſolveth the Snow, and the thicker Clouds, therefore then the Motion ſhall be diſcovered Southerly.

Now that theſe Motions blow more from the *Sea* in the Collateral quarters, *to wit*, In the South-Eaſt, and North-Eaſt, or in the quarters more near to the North, and South; its cauſe ſeemeth to be referred either to the divers ſcituation of the places, in which the Snow and the more thick Clouds are there collected, or rather unto a general wind, which is very forcible to attract thoſe Motions unto another quarter. For ſeeing that a general wind of its own nature tendeth directly from the Eaſt, to the Weſt, and theſe Motions tend from one *Pole* unto the other, thence ariſeth a mutual hindrance; and thence it may come to paſs, that the wind may gain an intermedial quarter between the Eaſt and South, and Eaſt and North. The South-Weſt, and North-Weſt Motions are unconſtant, rare, and weak; and therefore are ſcarce reckoned amongſt Motions, when that the North and South by accident ſeem to decline ſometimes to the Weſt, but they are attracted to the Eaſt by a general wind. Now to render a reaſon concerning the great diverſity of theſe Motions in divers places, more accurate obſervations are required, and thoſe not of one year but of many, with the notation of the *Winter*, *Rainy*, *Snowy Seaſons*: and the Mountains of theſe places from the quarters of which theſe *ſtate* winds do blow; we ſhould alſo know the *Phaſis* and Motion of the *Moon*, and what variation this maketh.

Several winds blow at certain times in ſet places.

2. In *July* South winds blow at *Cape Verd*, (for then there is the *Winter* in the time of Rain) and this ſeemeth to produce from no other Cauſe than that, by which in our *Zone* North winds blow in the *Winter*.

3. At the Promontory of *Good-hope*, in *September*, the North-Eaſt wind bloweth.

4. At *Patanen* in *India*, in *November*, *December*, and *January*, continual Rains, and a North-Eaſt wind predominateth, but in other Months an Eaſt wind bloweth, and it is *Summer*.

5. About *Sumatra*, there is a mutation of the Motions in *November* and *December*.

6. In the Iſle of *Mayo*, one of the *Azores*, in the end of *Auguſt*, a vehement wind bloweth from the South and bringeth Rain, which moiſtens the Earth, otherwiſe dry, and then firſt of all Graſs ſpringeth up, which feedeth many *Goats* at the end of *December*.

See the following Propoſition.

7. In *Congo* from the middle of *March*, to *September*, (at what time it is *Winter* there) the North and North-Weſt wind blow, or other intermedial winds, which force and gather the Clouds on the tops of the Mountains, and generate an obſcure *Air* with Rain. But from *September*, to *March*, the South and South-Eaſt and other intermedial winds blow that are contrary to the former. We have taken theſe differences of the *ſtate* and Anniverſary winds, from the Obſervation of *Mariners*, that term them *Mouſſons*, or Motions, if that they blow in a long tract of the *Sea*. And now we ſhould Treat of their Cauſes, but that we are ignorant of the Mountains of the *Regions*, of the times of the Snows, and their meltings, and many other matters. Moreover thoſe Obſervations of *Seamen* are not ſufficiently accurate, ſo that they deſerve a diligent inquiſition concerning their Cauſes.

The more noted Motions are theſe,

More noted Motions.

1. In the *Indian Ocean*, between *Africa* and *India*, and to the very *Moluccos*, in an *Oriental* Motion towards the Weſt, which begineth in *January*, and bloweth for ſix Months, even to the begining of *June*: In *Auguſt*, and *September*, a contrary Motion begineth, *viz.* Weſtern winds. In *June*, *July*, and *Auguſt*, is a mutation of Motions, and great Tempeſts from the North. Now when that we ſpeak of *Oriental* and *Occidental* winds, we do not only underſtand the Eaſt and Weſt winds, but alſo the Collateral winds.

2. The *Oriental motion* varieth very much at the Shoars, so that Ships can only Sail from *India* on this side *Gatu*, or on the Coasts of *Malabar*, from *January* to the middle of *May*, to *Persia*, *Arabia*, *Mecha*, and *Africa*: for seeing that in the end of *May*, and all *June*, *July*, and *August*, the *Tempests* rage violently, and often a *North* wind, or furious *North-East* wind frequently intermixing it self: therefore in these Months no Ships pass from *India* on this side *Gatu*: but on the Coast of *India* beyond the *Gatu*, or *Ganges*, that is on the *East quarter*, or on the Coasts of *Choromandel*, such *Tempests* are not known. A Voyage is undertaken from *Ceilan*, *Java*, and other Isles, to the *Moluccoes*, in *September*, because that then the *Oriental motion* begineth, which hindereth the general wind. But when you depart to 15 *degrees* of South *Latitude*, beyond the *Æquator*, this Occidental *motion* is not discovered in the *Indian Ocean*, but a general *South East* wind filleth the Sails.

3. From *Cochin* to *Malacca*, that is from the *West*, to the *East*, they begin their Voyage in *March*, because that then there the Western *motion* begineth, or rather the *North West* wind frequently bloweth.

4. In the Kingdom of *Guzurat*, half the year the *North* winds blow from *March* to *September*, and in the other half the *South* winds, and that without any other hindrance caused by other winds.

5. The *Dutch* set Sail from *Java* for the most part in *January*, or *February*, when that they return for *Europe*: then they Sail with an *Easterly* wind even to 18 *degrees* of *South Latitude*: and here the *South* or *South-East* wind begineth to blow, by which they Sail even to St. *Helena*.

6. Although in the *Indian Ocean* from *January*, even to *June*, the *motion* be *Oriental*, and then from *August* to *January*, the *motion* be *Occidental*; yet nevertheless in divers parts of it, when we must Sail from one place to another, divers seasons are discovered more or less convenient, by reason that the Collateral winds do more or less blow, or the *motion* is more or less vehement at those times, or other winds more often or more seldom intermix at that time: therefore those that are to Sail from *Cochin* to *Malacca*, observe another *motion*, another from *Malacca* to *Maccou*, the *Emporium* of *China*, another from *Maccou* to *Japan*.

7. At *Banda* the *Western* winds cease with the end of *March*, and at the end of *April* there are variable winds, and calms: with the Month of *May*, violent *Easternly* winds with Rain begin.

8. At *Ceilan* about the Promontory called *Punto Gullo*, on the 14*th*. of *March*, the first *Occidental* wind begineth, *viz.* the *West-South-West*, then the *South-West* constant and continual from the end of *March*, to the first of *October*: then the *North-East* begineth, which bloweth there even to *March*, but some daies at ten, or also more, these *State-winds* or *motions* happen sooner or later.

9. In the Voyage from *Mozambique* to *Goa*, in *May*, and *June*, the *South-East* winds are predominate even to the *Æquator*, but from the *Æquator* to *Goa*, the South-West and South winds reign in *July*, *August*, and the following Months.

10. In the 35 *deg*. of the *Elevation* of the *Meridian* which passeth through the Isle of *Tristan de Cunha*, in *May*, on the *New Moon* the *West* wind reigneth.

11. At the 2 ½ of *North Latitude*, in the *Sea* seventy *miles* from *Guinea*, a *South-East* wiad predominateth from the 20*th*. of *April*, to the 5*th*. of *May*, but not on the Shoar, or in *Guinea* it self: after the 5*th*. of *May*, the same wind is also discovered at the 3 *deg*. and 3 ½ of *Latitude*.

12. At the Isle of *Madagascar*, from the 15*th*. of *April*, unto the last of *May*, the *North*, and *North-West* wind bloweth; but in *February*, and *March*, the winds blow from the *East* and *South*.

13. In *April* or *May*, in the tract of *Land*, and *Sea*, from *Madagascar* to the Promontory of *Good hope*, the *North* wind, and the wind Collateral to the *North* blow continually to the *East*, so that it is esteemed a Miracle if that the *South* or *South-East* wind blow for two daies.

14. After the 20 of *April*, in the *Sea* of *Bengala*, the South wind is violent: before that day, the South-West, and North-West, and those being very impetuous, do predominate.

15. There is a Motion for Navigation from *Malacca* to *Maccou*, in *July*, *October*, *November*, *December*, *viz.* the South winds, and South-West winds, and oftentimes the South-East winds, but in *June*, and *July*, at the begining the West winds rage, about *Malacca*, and in the *Sea* of *China*.

16. The Motion by which they Sail from *Java* to *China*, (from the West, to the East) begineth with the Month of *May*.

17. The Motion by which they Sail from *China* to *Japan*, from the West, to the East, is in force in *June*, and *July*: *viz.* the South-West wind; but the North and Collateral wind to the North, at the East oftentimes interpose, and that especially at the day time, but in the night season the South-East and the first Collateral wind at the East do interpose, and let.

18. A contrary Motion, *viz.* from *Japan* to *Maccou*, from the East, to the West, is in *February*, and *March*, *viz.* the East, and North-East winds, but these predominate not in the *Sea*, but on the Coasts of *China*, which those that Sail in that Voyage from *Japan*, observe, they term them the Winds over the Land.

19. The motion by which they Sail from the *Phillippine* Isles, or *China*, to *Aquæpulco* in *America*, *viz.* the Western winds are observed in *June*, *July*, and *August*, but they are very weak, except in the Full *Moon*; now they are the South-West winds: but they avoid the *Torrid Zone*, and chose the Coasts of *America Septentrionalis* to shun the wind that is general from the East, which yet then is less vehement. This therefore must be known in general, that the *Occidental* Motions, or West winds, are more weak than the *Oriental*, because that these are helped by a general wind, but these are diminished by it.

20. In the *Sea* of *China*, a South, and South-West Motion reigneth in *July*, *August*, and *October*. But if that these winds be changed into an *Oriental* Motion, they never presently return to the South; but first to the North: hence when they have blowed some daies, they return to the East, and lastly to the South: sometimes the North-East, is immediately changed into the South-West, sometimes presently from the North to the South, and that here is sufficiently frequent.

So in the *Sea* anniversary winds are more constant, unto which I add those that are less constant, and those which on the Coasts, and also on *Maritimate* places are observed to be Anniversary.

Proposition IV.

The Etesian *winds, so termed, that are Anniversary in* Greece, *proceed from Rain and Snow dissolved on the Mountains.*

The *Grecians* observed a twofold kind of Winds on every *Year*, which were Stated and termed *Etesian winds*. *Viz.* 1. Those in the *Summer*, or *Canicular* winds; which they called by the General term *Etesiæ*, because that they were more strong and sensible. 2. The *Winter* winds, which they called the *Chelidonii*, or *Ornithiæ*. Of *Etesian* winds and from what they proceed.

The *Canicular Etesian* winds are Northern, in the placing of the begining of which to a certain, Writers do much differ. When that *Aristotle* had added that they blow after the *Summer Solstice*; he mentioneth nothing of the true time, which certainly is a very great negligence, which at length he augmenteth, where making mention of the *Ornithiæ*, he omitteth both the time, and the *quarter* of these winds: but those that have noted the time of the *Etesian* winds, they have observed that the forerunners of them begin to blow either on the 6 of *July*, or on the 15 of *July*, at the rising of the *Canicular* or *Dog Star*. Now those winds blow 40 *daies*, the whole space of the *Dog daies*, and therefore end with the Month of *August*; but others extend them to *September*:

they only blow in the day, and ceaſe in the night, therefore *Mariners* formerly called them, the ſleepy and delicate winds.

The cauſe of theſe winds queſtionleſs is the diſſolving of the Snow cauſed by the heat of the *Sun* on the Northern Mountains, which at that time is very great, by reaſon that now for divers Months together, almoſt he hath continually ſhined on thoſe Mountains without any ſetting; and with this cauſe it aptly agrees that the *Eteſian* winds ceaſe on the night, becauſe that then the reſolution of the Snow ceaſeth, or at leaſt is leſſer than the generation of the wind requireth, becauſe that the *Sun* then is over or near the *Horizon*, or elſe ſetteth wholly.

The ſame Northern *Canicular* wind is not only in *Greece*, but alſo in *Thrace*, *Macedonia*, the *Ægean Sea*, and the Iſles of the ſame, (all which *Regions* are ſometimes comprehended under the general term of *Greece*,) yea in *Ægypt* alſo; and it is probable that the wind which we have ſaid in the former *Propoſition*, bloweth in *Congo*, (ſcituate beyond the *Æquator*,) that that wind that bloweth from the North, between *March*, and *September*, is the ſame with theſe *Eteſian* winds of the *Grecians*, or at leaſt proceed from the ſame cauſe: as alſo that North wind which we have ſaid bloweth in the ſame Months in the Kingdom of *Guzurat*, from *March*, to *September*; theſe I ſay, we ought to Determine to proceed from the diſſolved Snows of the Mountains of *Aſia*, termed the *Sarmatian* Mountains, and the Girdle of the World, and therefore we reckon it amongſt the Motions.

The ſecond Anniverſary wind of the *Grecians*, is the *Chelidonian*, which they relate to begin after *Winter*, but have not noted the day of the begining. Now theſe are South winds (contrary to the *Canicular* or *Eteſian* winds) and very weak, without violence. Moreover inconſtant, and not ſo continual, whence they render the *Sea* calm.

Ariſtotle relateth that they blow by Courſe even unto the middle of *Summer*, until the Northern *Canicular Eteſian* winds begin, but that they are not ſo much diſcerned.

The Cauſe alſo of theſe winds, is the diſſolving of the Snow on the Mountains of *Monomotapa*, which Snow the *Sun* rarifyeth, becauſe that in the time of *Winter*, and that of *Greece*, they have *Summer*, the *Sun* paſſing through the Southern parts of the *Zodiack*; and this wind is alſo found in *Congo*, *Ægypt*, and the *Ægean Sea*, and the like is in *Guzurat*, but for very many Months, when it beginneth to blow in *Congo*, and *Guzurat*, in *September*, it continueth even to *March*.

The Anniverſary wind of the *Grecians*, which they call *Ornithia*, or the *Bridges* wind, this they ſay bloweth after the *Vernal Æquinox*, the *Sun* aſcending to the *Vertex* of the *Europeans*.

Propoſition V.

Why the Eteſian *winds blow not in* Italy, France, Germany, Perſia, *and other Regions? eſpecially ſeeing that they are more near the Northern Mountains, from whence we aſſert the* Eteſian *winds of the* Grecians, Congo, *and* Guzurat *do ariſe and blow.*

The *Eteſian* winds blow not in all Regions, though near the Northren Mountains.

The Queſtion is of no ſmall moment, and I wiſh that we had more accurate Obſervations concerning this matter, *viz.* the notations of the winds, which at that time are obſerved in each Region, whether in every Year the ſame never return?

Yet if that any thing muſt be ſaid to the Queſtion, theſe ſeem convenient. 1. We cannot deny but that the North wind often bloweth in our *Canicular*, or *Dog daies*. 2. That it is diſcovered leſs continual and in each year, peradventure the Cauſe is the often blowing of other winds, which hinder the diſcovery of the ſame. 3. We may ſay that the Mountain from which this firſt reſolution of the Snow begineth, is ſcituated directly from *Greece*, and therefore the firſt *Canicular* wind is carried hither, but the Vapours are carried hither from the Snow of the other Mountains, becauſe that here they find a free paſſage made, but I ſhall reject theſe my extemporay thoughts, when that I ſhall ſee a better reaſon, and more accurate Obſervations.

Pro-

Propoſition VI.

Some winds are proper and almoſt perpetual to ſome place or tract of Land, others are ceaſing.

Places which have a certain wind at a fixed time.

Thoſe places of the Earth are very few which have a certain wind at a fixed time, *viz.* theſe:

1. The places of the *Torrid Zone*, eſpecially of parts of the *Pacifick* and *Æthiopick Sea* ſcituate in the *Zone*, enjoy a perpetual wind, *viz.* an *Oriental* wind or its *Collateral*, which they call a General wind, as we have ſhewed in the ſecond Propoſition, where we have treated largely of it. Yea this wind is not ſo much to be reckoned amongſt the proper winds, but rather to be determined to be common to all places; for although by accident it happeneth that it be not diſcerned in all places, *viz.* becauſe other winds blow more ſtrong, yet it is proper to ſome: the Cauſe is alledged in the place cited.

2. On the Coaſts of *Peru*, and part of *Chili*, and to the adjacent *Sea*, the South wind is almoſt perpetual, and his *Collateral* wind at the Weſt. It beginneth at the 46 *deg.* of Latitude, and bloweth to *Panama* the *American Iſthmus*, and cauſeth that in few daies Ships arrive from *Lima* at *Panama* laden with Gold, Silver, &c. But it requireth many daies ſail from *Panama* to *Lima*. But this wind bloweth not in the *Sea* remote from the Coaſts of *Peru*. It is difficult to render the cauſe of this wind, by reaſon that the South Land from whence it ſeemeth to blow, is not yet known unto us. Yet I think it probable, that becauſe that Mountains are found in it covered with perpetual Snow; therefore the winds are generated from a continual reſolution of them. But I will not infect the mind of the Reader with theſe my ſuſpicions, or conjectures. For peradventure the Snows which are found all the year long in the high Mountains, at the *Streights* of *Magellan*, are the cauſe of theſe winds, but yet it may be Objected, that thoſe Mountains lie from the South towards the Weſt, declining from the South: wherefore we ſhall leave this to a more diligent inquiſition, or a more full knowledge of the South *Continent*.

3. At the Coaſts of the Land of *Magellan*, or *Del Fugo*, about the *Streight Le Mair*, continual or at leaſt very frequent Weſterly winds do blow, and that with that force, that they make the Trees to bend towards the Eaſt from their perpendicular rectitude; neither is there any part of the Earth in which thoſe *Occidental* winds ſo often blow: but on the other part of the *Streights Le Mair*, at the Coaſt of the South Land the South wind bloweth. I can render no other cauſe of thoſe *Occidental* winds, but that I ſuppoſe them to be raiſed from Snow and Clouds in the South *Continent*, which extendeth it ſelf from the ſide of that *Occidental Streight*, from the South towards the North. But theſe are doubtful and more diligently to be inquired after.

4. On the *Malabarian* Coaſts of *India*; for almoſt the whole year, the North and North-Eaſt winds blow: the cauſe proceedeth from the reſolution of the Snows of the Mountains of the *Aſiatick Sarmatia*, *viz. Imaus*, or *Caucaſus* from the *Clouds* on the other Mountains of *Aſia*, which are collected and preſs the ſubject *Air*.

5. In the *Sea* near to *Guinea*, the North Weſt wind is frequent, and in the remote *Sea* the North Eaſt.

6. In the middle paſſage between *Japan* and *Liampo*. a *Maritimate* City of *China*, even unto theſe are found *Occidental* winds, which blow in *Japan* in *November*, and *December*.

7. At the Iſle *Guotou*, not far from the Iſle *Dos Cavallos* in the *Sea* of *China*, is a frequent South wind, when that yet in the neighbouring *Ocean* a North wind is predominate.

Pro-

Propoſition VII.

Unto theſe Periodical or ſtate Winds, appertain thoſe alſo that are tearmed day Winds, which in ſome Regions, and at a certain time of the year blow for ſome hours every day.

Of Day Winds ſo called.

Now they are found to be twofold, and that only in ſome *Maritimate* places, for ſome blow from *Mediterranean* places to the Shore towards the Sea; and others on the contrary from the Sea to the Shoars.

1. On the *Malabarian* Coaſts in the Summer ſeaſon, *viz.* from *September* to *April*, the *Terreſtial* winds, or *Terrinhos* do blow from the twelfth hour of the night to the twelfth hour of the day, now theſe winds are Eaſtern winds. But from the twelfth hour of the day to the twelfth hour of the night, the *Sea* wind, or *Viraconus*, *to wit*, the Weſt wind bloweth: but this is very weak, ſo that by its aſſiſtance the Ships can hardly arrive at the Shoar. I ſuppoſe the cauſe of thoſe *Oriental* winds from twelve at night to twelve in the day, partly to be a general wind, and partly Clouds on the Mountain *Gatu*. But the cauſe of the Occidental Winds, that blow from twelve in the day to twelve at night, is the reſolution of thick Clouds cauſed by the ſetting of the *Sun*, which Clouds before by the *Oriental* wind were forced towards the Weſt. Out of thoſe named Months, the North wind predominateth, alſo the Eaſt and North-Eaſt, neither by reaſon of the often Tempeſts are theſe *Terreſtrial* and *Marine* winds diſcerned.

2. In *Muſulipatan* a City on the Coaſts of *Charomandel*, theſe *Terrinhos* begin to blow on the firſt day of *June*, and continue only fourteen daies, and then the Ships depart thence. But theſe are rather to be referred amongſt the motions, becauſe that as far as I can conjecture from the words of the *Nautick Deſcription*, theſe *Terreſtrial* winds on thoſe daies are there continual, neither do the *Marine* winds ſucceed them.

3. On the Coaſts of *America*, and new *Spain*, unto the *Pacifick Ocean*, *Terreſtial* winds blow in the middle of the night; and *Marine* winds in the day.

4. In *Congo*, and the Provinces at *Lopo Gonſalvo*, *Terreſtrial* winds blow from the evening all night; and *Sea* winds begin in the morning, and ſo leſſen the heat of the day.

5. The *Subſolan* winds alſo, which are found to blow before the *Sun*, and with the *Sun* riſing every day, in all places, eſpecially in *Brazile*, where it hapneth every day in the morning. It is no difficulty to explain the cauſe of it: for either we ſay that it is a particle of the General wind, or that the *Sun* diſcuſſeth and rarifieth the more groſs particles condenſed by the night.

6. The *Eteſian* and *Chelidonian* winds of the *Grecians*, appertain to the Diary or day winds.

7. On the Coaſts of *Camboja* from *Varrella* to *Pulo-Catte*, from the 28 of *July*, to the fourth of *Auguſt*, *Terreſtrial* and *Sea* winds ſucceſſively blow often every day, becauſe that the motions then ceaſe there, and cauſe a calm. The Weſt and North-Weſt are the *Terreſtrial* winds. But the Collateral are the Eaſt, to paſs through the North, and preſently are reflected at the South; then a calm ſucceedeth until the *Terreſtrial* winds begin to blow again, which yet are diſcovered on the *Sea* not above two miles from the Shoar.

8. Thoſe *Terreſtrial* and *Sea* winds are found to blow in the night in *America* at *Havanna*.

Pro-

Propoſition VIII.

By how much you draw near to the Æquator *from the* Artick Pole, *by ſo much the Northern-winds are found to be leſs vigorous; and having paſſed the* Æquator *in part of the South Continent, Southern-winds are vigorous, which in theſe places are cold and dry, eſpecially in* Chilis *and* Peru.

The cauſe of both are the ſame, by reaſon that they both proceed from the *Polary* places; yet *South-winds* are found in the North *Continent*, and *Northern* in the South.

Propoſition IX.

From what hath been ſaid it is manifeſt, that there are four differences of Winds.

1. Thoſe that are common, which blow at all times, and in every place, except that they be hindred by other *winds*; ſuch is only one, *viz.* the *General wind*. Four differences of Winds.

2. Proper *winds*, which blow at all times; but yet only in a certain place or tract of the *Earth*, not in all the *Earth*.

3. Thoſe that blow in many places, but not continually, or at all times; as are *Motions*, *Anniverſary winds*, and ſome *Diary winds*.

4. Thoſe that blow not at all times, nor in many places.

Propoſition X.

Some Winds are ſudden, impetuous and violent, not continuing long.

Such are the Winds termed *Preſter*, *Typhon*, *Turbo*, *Exhydrias*, *Ecnephias*. Theſe Winds are Anniverſary in ſome places; and ſome are more frequent in ſome places in the Sea. Of ſudden and violent Winds, and not of long continuance.

The Wind called *Preſter* is a violent wind, breaking forth with Lightning; ſuch are ſeldom obſerved, and it is ſeldom ſolitary without a wind termed *Ecnephias*. But *Seneca* ſaith, that a *Preſter* is a *Typhon*, or Whirlwind, with an inflamed Air.

An *Ecnephias* is a ſudden Wind, and violent breaking through ſome Cloud or Vapour; ſuch *Ecnephiæ* are often in the *Æthiopian Sea* between *Brazil* and the Procurrent of *Africa*, eſpecially at the Promontory of *Good-hope*, and from the other ſide of *Africa* to *Terra de Natal*, alſo at *Guinee* under the *Æquator*. *Mariners* call them *Travados*, by a *Portugal* word: alſo in ſome Months of the year it is more frequent in ſome Seas.

That Cloud, and ſometimes many thick and dusky Clouds, are manifeſtly beheld by the *Mariners* to collect and augment by degrees, and that in a moſt ſerene Sky, before that the Wind breaketh forth: and therefore when that they ſee it, they ought to furl their Sails, and defend themſelves againſt a future Storm. But before that *Sea-men* had learned the nature of theſe Clouds, and their Prognoſticks, many Ships having entred into this Sea were caſt away, which the *Portugals* firſt experimented; for that Nation firſt of all the *Europeans* ſailed the *Æthiopian Ocean*: For *India* being diſcovered by *Gamma*, the King of *Portugal* ſent thirteen Ships, a new Navy of great burthen, thither, under Admiral *Capralt*, in *Anno* 1500. This Navy firſt of all the *Europeans* arrived at *Brazil* to the great joy of the *Portugals*. Here, when that they had ſtayed ſometime, *viz.* the Month of *April*, they ſet Sail thence on the Month of *May* towards the Promontory of *Good-hope*; but they had a moſt cruel Storm from an *Ecnephias*, the approach of which they ſaw, yet were not acquainted therewith. Which *Maffæus* thus deſcribeth: From *Brazil*

to the Promontory of *Good-hope* they reckon almoſt two thouſand Leagues (that is, about a thouſand *German* miles,) thoſe are the Kingdoms eſpecially of the raging Ocean and violent Winds. The *Portugals* having entred into that ſpace more adventurouſly than fortunately on the Month of *May*, a flaming Comet appeared incontinently even to the tenth day. And now the Sky often changing, as alſo the Sea, black and ſordid Clouds were conglobated to the North, and collected all the Wind into it ſelf, as it were by reciprocation, the Sea was languid, and the Calm treacherous; the *Sea-men* unskilful both in the Places and Tempeſts, ſpread their Sails to receive all the gale of Wind; when from thoſe Clouds, as I have ſaid, the North-wind pouring it ſelf ſuddenly with an univerſal violence, it Shipwracked four of their Ships that were not ſo well diſpoſed to hand their Sails in a moment, the reſt looking on, ſo that of ſo great a Company of men none eſcaped. The ſudden ſtriking of the Yards or Sails rent by the wind, preſerved the reſt by accident. Then the North-wind blowing furiouſly, the Sea ſwelled, the Flouds ſometimes advanced to the Skies, and ſometimes ſunk to the depths of Hell; the *water* in the day time appeared as black as Pitch, and in the night time of a fiery colour. This diſmal Tempeſt continued the ſpace of 20 days.

See *Maffeus.*

The Promontory of *Good-hope* is eſpecially infamous for ſuch *Ecnephiæ* or *Travados*.

There is not far from the Shoar a very high Mountain not ending in an *Apex*, but having a plain on the top, like to a Table. From that top an *Ecnephias* breaketh forth with a great violence, and wonderful Prognoſtick. For the Sky being very clear, and the Sea calm, a Cloud is beheld to ſtand on the Table of the Mountain, which is ſo ſmall at firſt, that it ſeemeth not to exceed the bulk of a grain of Barly, and at length it increaſeth to the bigneſs of a Walnut. The *Dutch* call it the *Oxes-eye*, becauſe that this Cloud is ſaid to be like unto it, then after a while the Cloud augmenteth, and extendeth it ſelf over the whole plain of the Mountain. Then on a ſudden an *Ecnephias* breaketh forth from the top of the Mountain with ſo great violence, that it over-ſetteth and ſendeth to the bottom Ships that are unprovided and not well ſtrengthned; but *Sea-men* being now more cautious, when that they once diſcover that *Bulls* or *Oxes-eye*, preſently depart from the Shoar as far as they can, and then furl their Sails, and uſe other Artifices to preſerve their Ships; neither doth this Prognoſtick ever fail: therefore they fly this deadly Banquet. After the ſame mode an *Ecnephias* rageth at *Terra de Nata*: the *Bulls-eye* fore-runing it, by which many Ships have been caſt away. And ſo it is alſo in that whole tract between that Land and the Promontory of *Good-hope*. In *Dauphin* in *France*, not far from *Vienna*, is a high Mountain, on the top of which is a ſtanding-Pool, from whence all Tempeſts ſeem to ariſe in theſe places: on the top of it is procreated a Cloudy exhalation, which foreſheweth immediately Thunder or Storms to ſucceed.

In the Sea between *America* and *Africa*, and near the *Æquator*, ſuch *Ecnephiæ* and *Travados* are frequent, eſpecially in thoſe Months in which no Winds blow conſtantly, or if they do, it is very ſeldom, *viz.* throughout the whole year, eſpecially in *April*, *May*, and *June* (in other Months it is more rare,) and they are very obſervable on the Coaſts of *Guinea*: The *Portugals*, as I have ſaid, call them *Travados*, which word alſo the *Dutch* keep; but the Inhabitants of *Guinea* call them *Agremonte*. They often happen, *viz.* three or four times in a day, by and by they ceaſe; for they continue for the moſt part above an hour and a half, but the firſt ſhock is very violent. They break out of black and duſty Clouds, the Sky being clear at hand. By their aſſiſtance *Sea-men* oftentimes paſs the *Æquator*, becauſe that other continual Winds are often wanting there, eſpecially in thoſe three Months; neither do they hinder Ships to ſail, except at the firſt onſet. But in the Sea that is near to that part of *Africa*, in which the Kingdom of *Loango* is ſcituated, there is a frequent *Ecnephias* in *January*, *February*, *March* and *April*: ſo on the Promontory of *Africa*, called by the Ancients *Aromata*, and now *Guardafu*, not far from the Mouth of the *Red Sea*, in *May* every year the North-wind rageth, and a moſt violent *Ecnephias*. For

For you muſt know, that as ſome Anniverſary winds are leſs violent: ſo alſo *Tempeſts* and *Ecnephiæ* are Anniverſary in ſome places. In ſuch an *Ecnephias*, not far from that place, the *Portugal* Admiral *Sodrens* was loſt *Anno* 1505; who being forewarned by the *Africans* would not follow good Advice.

But in the Mouth of this *Arabian* Sea, as alſo in *Arabia* and *Æthiopia*, a peculiar and wonderful *Ecnephias* doth ſomewhat happen, *viz.* a thick and black Cloud, mixed with Nubicular flames like to a burning Furnace (diſmal to behold) cloudeth the day in darkneſs, of an inſtant a Storm breaketh forth, the rage of which is by and by pacified; but it caſteth forth red Sand in great abundance on the Land and Sea, ſo that the *Arabians* ſay, that it hath often happened, that ſuch Storms of *Sand* have overwhelmed the Annual Company of Merchants and Travellers with their Camels, they term them *Carawanen*, *Caravans*, or *Caffila*, *viz.* every year once or twice Merchants being met together from divers parts of *Aſia* in *Syria*, go from *Aleppo* into *Arabia* about ſix thouſand perſons, by reaſon that the wonted Robberies of the *Arabians*, and the difficulty of the way, cauſe them to fear to Travel alone: which alſo they do from *India* to *China* and *Tartary*: and thence they ſay, that the *Mumia* of the *Arabians* and *Ægyptians* hath its original. *Viz.* thoſe Bodies covered with the drifts of Sand, are dried up by the great heat of the Sun. Now this *Ecnephias* ariſeth from the Northern quarter into which the *Red-Sea* is extended; and therefore it is probable, that ſeeing ſo great a quantity of this Sand is found on the ſhoar of this Sea, that it is raiſed aloft by the Wind, and that thence that Red colour is ſeen in the Clouds, and thence alſo the *Sand* is ejected from the Clouds.

That ſuch an *Ecnephias* ariſeth in *Lybia*, by reaſon of the great quantity of Sand, is not improbable, and was in ſome meaſure known to the Ancients; who therefore writ, That the acceſs to the famous Temple of *Jupiter Ammon* in *Lybia*, was difficult, neither were they altogether ignorant of the generation of *Mumia*. *Twiſtius* a *Dutch-man*, that lived a long time in *India*, ſaith, that in the Kingdom of *Guzurat* Clouds of Sand, or an huge quantity of Duſt (that are elevated by the heat of the Sun) do oftentimes overwhelm the Travellers. Now we muſt ſpeak of the Cauſes of this Tempeſtuous wind, whence the *Ecnephias* proceedeth. It is evident, that it breaketh forth of a Cloud. Now there are two Modes by which ſuch a *Wind* may ſeem to be generated from a Cloud: 1. If that a Cloud tending downwards by its gravity ſtriketh the Air with a great force, as we diſcover by Experience, if that ſtretched forth Sails fall, the Air is moved with an *impetus*. And thence it cometh to paſs, that by how much the *Cloud* or *Bulls-eye* appeareth leſs, by ſo much the Storm is the greater that followeth, *viz.* becauſe that the Cloud is more high, and therefore appeareth ſmall; and deſcending down from a higher place, it more vehemently ſtriketh the Air; the other is the motion of the generation, if that the Wind included in the Cloud breaketh forth ſuddenly, or by reaſon of ſome fire or Sulphureous matter, the way being rendred ſtrait, and other outlets being reſtrained, the Vapours ſtrike, as from a Veſſel of a narrow mouth containing water, if that it be heaped, the *wind* breaketh forth; but the firſt cauſe ſeemeth more probable.

Propoſition XI.

An Exhydrias *is a Wind breaking from a Cloud with great abundance of water.*

A Wind called an *Exhydrias.*

It is little different from an *Ecnephias*, but that the Cloud from whence it ſeemeth to break, is now condenſed into *water*, and ſo long upheld by other circumſtantial Clouds, and peradventure forced into one by the *winds*, until by its ponderoſity it ruſheth downwards, and ſtrikes the Air, whence a great Wind proceedeth. But theſe *Exhydrias* are very rare: yet the *Ecnephias* hath for the moſt part Rains, Showers, or thick Clouds accompanying him; and therefore only differeth from the *Exhydrias*, according to the more or the

leſs. For a *Nimbus* is nothing elſe, but a Wind with a violent Rain, and therefore is more general than an *Ecnephias*: but an *Exhydrias* oftentimes falleth perpendicularly from the top.

Propoſition XII.

A Typhon *is a violent Wind, paſſing ſwiftly through all the quarters about a place, and for the moſt part ruſhing from the top.*

A VVind called a *Typhon*.

The *Saracens* call it *Olifant*; the *Indians*, *Orancan*. It is often in the *Oriental Sea*, eſpecially in the Sea of *Sian*, *China* and *Japan*, (between *Malacca* and *Japan*.) This violently breaking almoſt from the Weſtern quarter, and being whirled about the Horizon with a rapid courſe, perfects its circumference by continual increaſe in the ſpace of twenty hours, raiſing thoſe vaſt Seas with an horrid violence and ſwellings; the Billows beating one another, take away all hope of ſafety from the *Mariners*: and ſo both by reaſon of theſe *Typhons*, and alſo other Storms, ſailing from *India* to *Japan* is very dangerous, ſo that it is accounted an happy Voyage, if that one Ship of three keepeth its courſe. At the Autumnal Seaſon a moſt furious *Typhon* doth eſpecially predominate, and that often with ſo great violence, that thoſe that have not ſeen it, can hardly believe it; ſo that it is no wonder, that ſome mighty Ships have been weakned by thoſe great Waves: you would think in this Storm, that Heaven and Earth would meet.

Neither doth it only rage on the Sea, but alſo on the *Shoars*, and overwhelmeth many Houſes, and throweth up huge Trees by the roots, and forceth great Ships from the *Sea* on the *Land* for about a quarter of a mile.

The *Mariners* term it a Wind that runneth round the *Compaſs*. In the *Indian Ocean* it ſeldom continueth above ſix hours, and maketh the Sea ſo level at the firſt, as if that it were plained; but on a ſudden horrible Waves do follow. So about the City *Ardibil* in *Perſia*, in *June* and *July* every day, when that the *Sun* is at his *Meridian* height, a *Whirlwind* ariſeth for an hour, by which a great duſt is raiſed.

Queſtionleſs the cauſe of a *Typhon* is, that a *wind* breaking forth with violence from ſome one quarter towards another, findeth an obſtruction in this, and therefore is wreathed and turned into it ſelf; as we ſee, that if *water* be ſuddenly moved, if that an obſtacle be put in its way, it moveth in a round ſuddenly, and with a force. It may be, that a *Typhon* may ariſe from oppoſite *winds* blowing together violently, which render the *ſuperficies* of the *Sea* ſo plain, and comprehend the Ships in the middle. If that it ruſh from above, it is called *Cætegis*: and then it maketh the *Sea* ſo plain, as if that it had been plained; but preſently mighty *Floods* or *Waves* ariſe.

Propoſition XIII.

Whether that ſome Winds break forth from the Earth, or Water.

Of VVinds breaking forth from the Earth or VVater.

We eaſily apprehend that this may eaſily be, ſeeing that *Cavities* are here, and alſo *Winds*, *Sulphureous ſubſtances*, and *Moiſture*. Now nothing hinders, but that a guſt ſufficiently vehement may be there generated, *viz.* if that it be any thing hindred, as it is procreated, to go forth; or if that it be preſently generated in a great quantity, as much as the *winds* require.

If that the Outlet be hindred, an *Earthquake* is generated, or a *wind* with a violent force maketh way for it ſelf, and thruſts forwards the *Earth*. So oftentimes a *Smoak* breaketh forth from the *Earth* in the Iſles of *Maarice*: ſo alſo from ſome *Caves*. In *Japan* is a *Fountain*, breaking forth at certain hours of the day with great noiſe.

Yet I do not remember, that I have read of any *Wind* breaking forth out of the *Sea*.

Propo-

Propoſition XIV.

Whether that a certain Wind may ariſe from the flowing of the Sea, and of the Rivers?

Of a VVind that floweth from the Sea and Rivers.

Experienced teſtifieth, that in thoſe places where the *flux* and *reflux* of the *Sea* is diſcovered, if at any time the *Air* be free from other winds, from the moſt part with the *water* flowing from the *Sea*, a wind alſo bloweth from the *Sea*.

Therefore it ſeemeth probable, that the *Air*, by reaſon of the contiguity, is carried with the *water* to the ſame quarter: But this ſhould be more diligently obſerved, Whether, when that the *Air* is ſtill, the ſame *wind* is diſcovered with the afflux of the *Sea*? I think yet, that another cauſe of this *Wind* may be given, *viz.* that the *Air* is forced from the place by the flowing water. Now the *Air* is much moved at a very little impreſſion: ſo they will have the *Air* moved with the Rivers that run ſwiftly.

Propoſition XV.

Why Ignes fatui, Caſtor *and* Pollux, *and* Helena, *are amongſt Tempeſts.*

The *Portugals* call them *Corpo Santo*; the *Spaniards*, St. *Elmo*. Now not only one, but many are oftentimes beheld in Ships at the *Maſts*, wandring with an uncertain motion, as other *Ignes fatui*, although that ſometimes they may ſeem to fix on the *Sails* and *Maſts*: But ſometimes leaping up and down they appear like a flame, or a Candle burning obſcurely. If that four ſuch vicine Lights be ſeen, the *Portugals* term them *Cora de Noſtra Seneora*, the *Crown of our Bleſſed Lady*, or *Virgin Mary*. And theſe they account of as a moſt certain ſign of the *Tempeſts* to ceaſe. The cauſe of thoſe *Fires* is a Sulphureous part, full of *Bitumen*, forced downwards through that great motion of the *Air*, and forced or fired into one by agitation or congregation. So we ſee by agitation, that the Butter of *Milk* is ſeparated: from this *Phænomenon* is alſo collected, that for the moſt part thoſe violent Tempeſts proceed from a *Sulphureous ſpirit*, rarefying and moving the *Clouds*.

Propoſition XVI.

Why there is ſo frequent a Calm in the Sea near Guinee, *and under the* Æquator *in the Atlantick Ocean, between* America *and* Africa.

Frequent Calms in the *Atlantick Ocean*.

This is one of the *Phænomenons* about *Winds* of no ſmall difficulty, That at *Guinee*, which is two *degrees* from the *Æquator*, and under the *Æquator*, is almoſt a perpetual Calm, eſpecially in *April*, *May*, and *June*, where no motions are found there, when that no ſuch thing is obſerved in other parts of the *Ocean* ſcituate under the *Æquator*. Indeed an *Ecnephias* is ſometimes ſufficiently frequent there; but this alſo is deſired oftentimes by the *Sea-men*, becauſe that by the force of frequent *Ecnephiæ* they endeavour to ſail beyond the *Æquator*: For it happeneth very often, that Ships ſailing from *Europe* to *India*, are detained a whole Month at the *Æquator* before that they can paſs it. Now eſpecially they avoid the Coaſts of *Guinee*, and the Calm there; and therefore with ſome hindrance to their Voyage, they ſail towards *Brazil*: yea ſome *Ships* are detained here for three Months, before that they can depart from the Coaſts into the Mid-Sea. I have not yet found out the cauſe of the *Phænomenon*, unleſs perchance this be it, that *Snows* are found intercepted in no *Mountains* of *Africa* between *Guinee* and *Barbary*, which may generate the *Winds*.

Propo-

Proposition XVII.

In some Regions the Tempests are Anniversary.

Of Tempests Anniversary in some Regions.

We have given some Examples of these in our former *Propositions, viz.* 1. Concerning the mutation of *Motions.* 2. Concerning our *Ecnephias.* 3. Concerning a *Typhon.* 4. At the Promontory of *Good-hope*, in *June* and *July.* 5. In the Isle *Del Majo*, with the Southern-motion in the end of *August*, in 35 *degrees* of the Meridian of *Tristian de Cunha*, in *May*, in the *New Moon*, the *West-wind* rageth, and Shipwracks: but in 33 *degrees* of the same Meridian, the *North* and *North-east Winds* predominate. 8. In *June* and *July* in the Sea of *China*, at *Pulon Timor*, the *West-winds* are violent and dangerous. 9. Between *China* and *Japan*, many Storms are from the *New Moon* of *July* to the twelfth day of the *Moon.* 10. There, if in *June* other winds blow besides the motion, sometimes from this, sometimes from that quarter, until that they are setled in the *North-east quarter*, of a certain a Storm followeth.

THE



THE SECOND BOOK OF General Geography,

CONCERNING

The Affections of the places of the Earth depending on the apparent motion of the Stars.

CHAP. XXII.

Of things requisite to be foreknown in the knowledge of Geography.



Hitherto we have been employed in an absolute contemplation of the *Earth*; we now draw near the Second Part of this Doctrine, in which we shall consider those Properties or Affections which happen to the *Earth* from the apparent motion of the *Sun* and *Stars:* Neither would they be, except this *Motion* were evident. The Explication of which Affections will, with greater right, appertain unto *Geography*; if so be that same *Motion* be attributed unto the *Earth* it self, of which we have treated in the Sixth Chapter. Now for the right knowledge of these Affections, these following *Hypotheses* and *Definitions* are necessary to be understood.

Defini-

Definitions.

An Artificial Terreſtrial Globe termed a factitious Globe.

First, the *Artificial Terreſtrial Globe* is termed a factitious Globe, from whoſe Superficies the parts of the *Earth*, and their ſcituation, are ſo repreſented, as they have an exiſtence in the *Earth* it ſelf, according to the proportion of this Superficies to the Superficies of the *Earth*.

A Map, a plain Figure, and of what Lines it conſiſts.

A *Map* or *Geographical Card* is a plain figure, in which the ſcituations of the *Terreſtrial Superficies* are repreſented. And this again is either Univerſal or Particular: The firſt exhibiteth the whole Superficies of the *Earth*; the other, ſome one or other Region.

Some *Maps* conſiſt of ſtrait Lines, and others of crooked: Theſe of ſtrait are ſuch in which the Peripheries or Circumferences of the *Terreſtrial Circles* are repreſented by right Lines; the other in which the ſame *Peripheries* are exhibited by crooked Lines. But as for the compoſure of a *Terreſtrial Globe*, and *Geographical Maps*, we ſhall take an occaſion to treat of in the end of our Book, by reaſon the ſame cannot be underſtood before the Doctrine, which we now handle, be well apprehended.

Of the Poles and Axis of the Earth.

Secondly, The *Poles* of the *Earth* are two points diametrically oppoſite in the *Superficies* of the ſame, which remain immoveable in the Diurnal circumrotation of the *Earth*, or which are ſubjected unto the *Poles* of the apparent Quotidian motion of the *Stars*. But the *Axis* of the Earth is ſaid to be the *Diameter* conjoyning the Poles: Or thus, The *Axis* of the Earth is that *Diameter* of the Earth, about which the Diurnal motion of the *Stars*, or *Earth* it ſelf, is perfected. Now the *Poles* are ſaid to be the Extream points of the *Axis* in the Superficies of the *Terreſtrial Globe*; and that *Pole* which is ſubjected to the Conſtellation termed the *Bear*, is called the *Artick*, *Septentrional*, or *Northern Pole*: the other is called the *Antartick*, or *Southern Pole*. Theſe are by more facility explained by an *Artificial Terreſtrial Globe*, than by words. If the former be wheeled round, thoſe two immoveable points will appear, which are the *Poles*, and the *Diameter* imaginarily drawn from one *Pole* to the other through the *Center* of the Earth, ſhall be the *Axis*.

The Æquator, or Æquinoctial Line.

Thirdly, The *Æquator* is ſaid to be the Periphery or Circumference of the greateſt *Circle* in the Globe of the Earth, equally diſtant from both the *Poles*, or placed in the middle between the *Poles*, or whoſe Poles are the ſame with the Poles of the *Earth*. It is alſo termed the *Æquinoctial Line*, and that by Mariners. All the Stars in their Diurnal motion, make *Peripheries* equid ſtant or parallel to the *Æquator*; wherefore the Æquator is the Rule of *Diurnal motion*.

Parallels.

Fourthly, The *Parallels* of the *Æquator* are ſaid to be leſſer Peripheries, which are parallel to the *Æquator*. In an *Artificial Globe* the *Æquator*, by reaſon of its Magnitude, is more conſpicuous than the others, and its name is aſcribed, and it is divided into 360 *degrees*. The *Parallels* are alſo conſpicuous, which are likewiſe termed the *Circles* of the Latitude of Places, as we ſhall ſhew in the following Chapter.

Of Maps.

Theſe may alſo be ſhewed in *Geographical Maps* that are Univerſal. Indeed in Maps of *Right Lines* the *Poles* are not repreſented, but the Extremities of every Meridian are the *Poles*: but in Maps conſiſting of *Crooked Lines*, the *Poles* are thoſe points in which the Crooked Lines do meet the *Æquator*, being tranſverſe in both kind of *Maps*, paſſeth through the middle of them, and hath a greater Latitude than the other Lines, and withal it is a ſtrait Line; although in the particular Maps of *Aſia* and *Europe* it be made crooked. The Parallels of the *Æquator* in ſtrait-lined Maps, are ſtrait-lines; and in crooked-lined Maps, they are crooked.

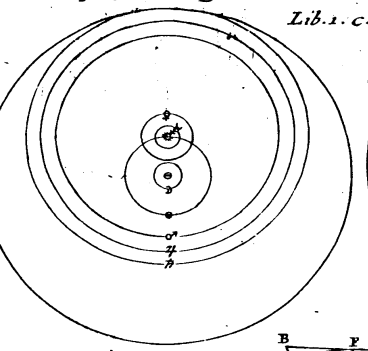
The Ecliptick.

Fifthly, The *Ecliptick* is the greateſt Circle of the Heavens, which the *Sun* deſcribeth in his Annual motion. In truth it exiſteth not in the Earth; but by reaſon of its notable uſe it is marked in the *Artificial Globe*, as alſo in *Geographical Maps*.

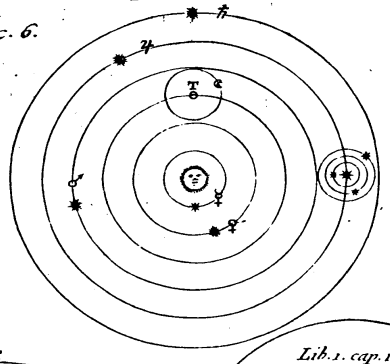
Sixthly,

The Suystem of the World by Tycho Bragh.

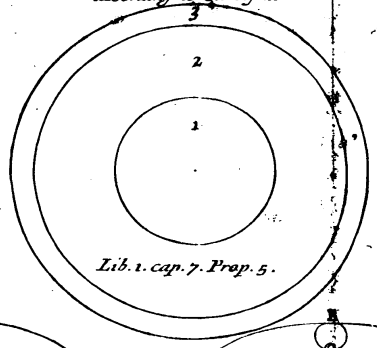
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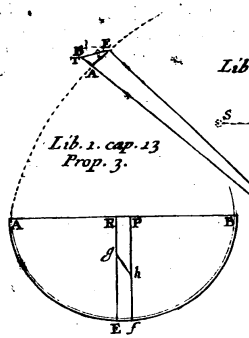
The Copernican Suystem.



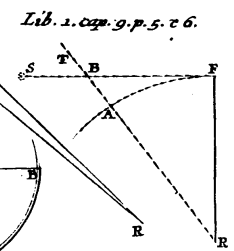
Of the Regions in y^e Earth according to Carteſius



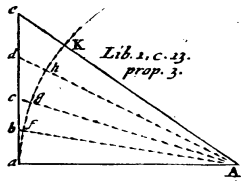
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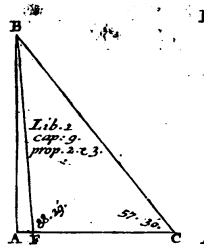
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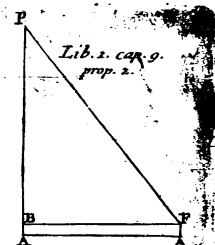
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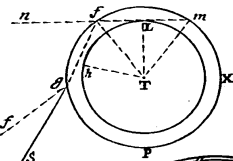


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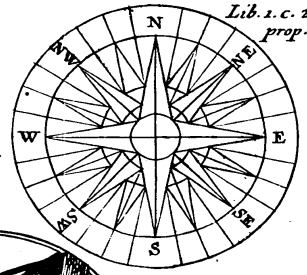


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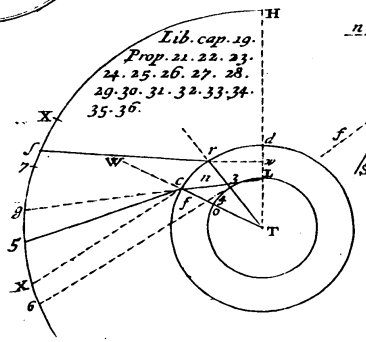
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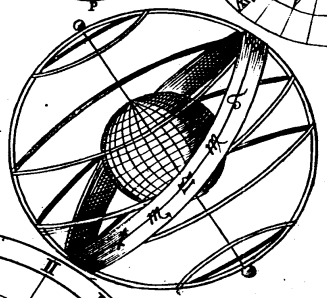
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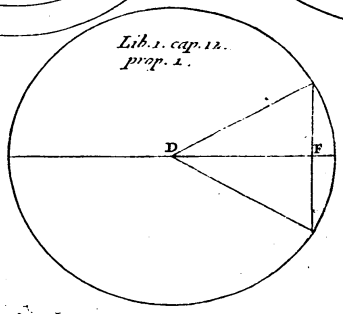
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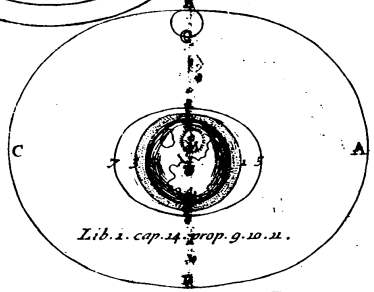
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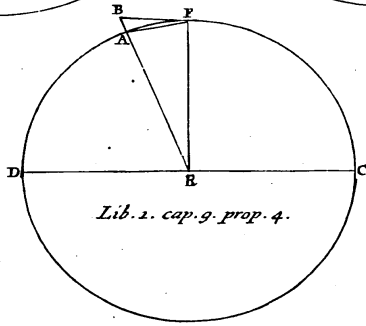
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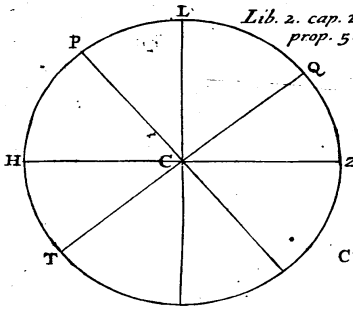
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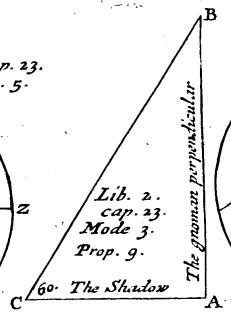
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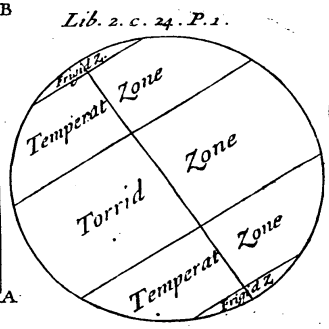


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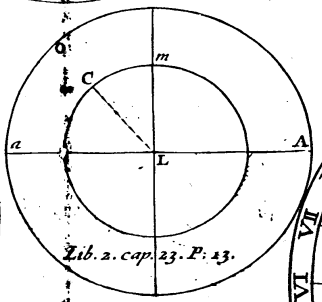


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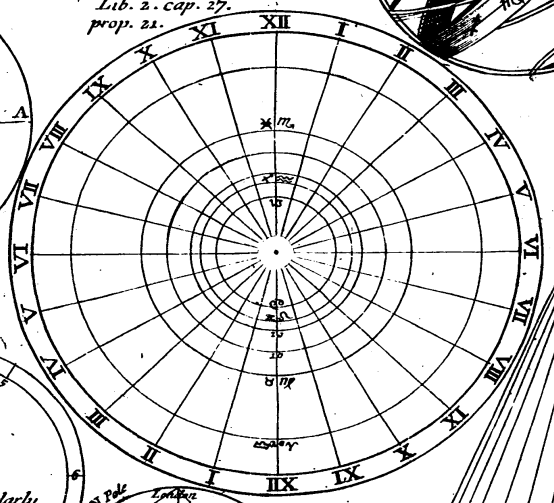




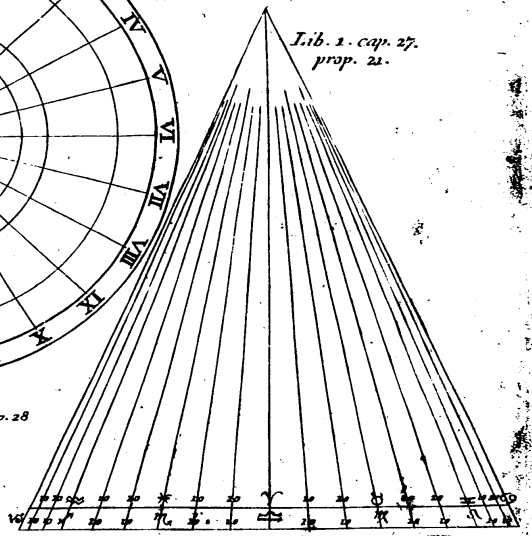
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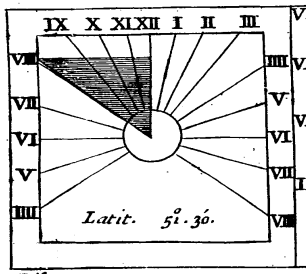
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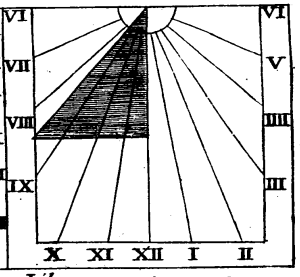
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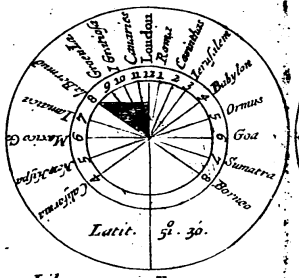
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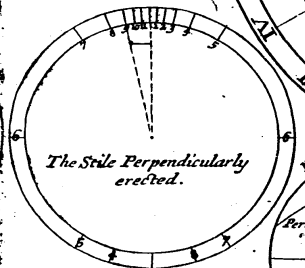
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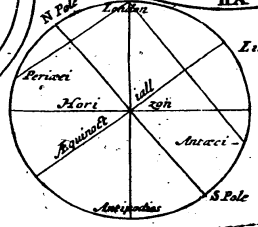
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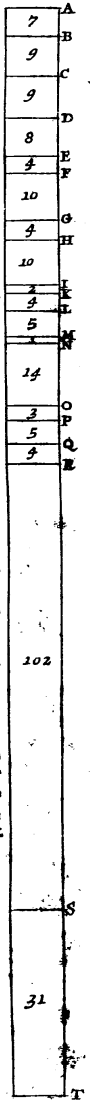
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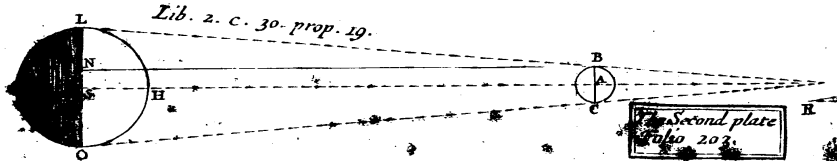
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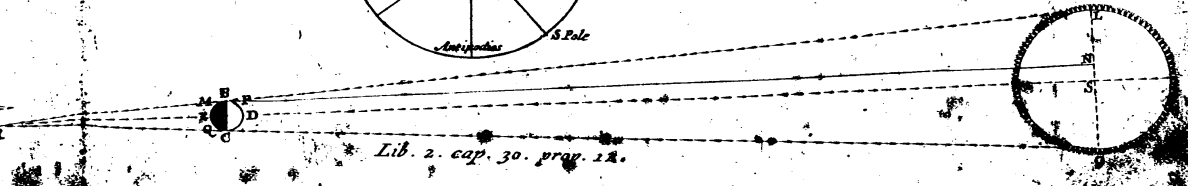
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Lib. 2. c. 30. prop. 19.



Lib. 2. cap. 30. prop. 12.



The Second plate folio 203.

Sixthly, The *Tropicks* are two Parallels of the *Æquator*, which are distant from the *Æquator* by so great an interval, as the greatest recess of the *Sun* is from the *Æquator* towards the *Poles*, or as the greatest declination of the *Sun*, or obliquity of the *Ecliptick*. The Tropicks.

The Tropick of *Cancer* is that which is interposed between the *Æquator* and *Pole Artick*.

The Tropick of *Capricorn* is that, which is between the *Æquator* and the *Southern Pole*.

In the *Globe*, and in *Maps*, they are wont to be noted by a double *Periphery*, and the same appellation is ascribed. The *Polary Circles* are two *Parallels*, so called; whereof one is distant from the *Pole Artick*, the other from the *Antartick*, so many *degrees* as the *Sun* is from the *Æquator* in his greatest recess; and the first is termed the *Artick Circle*, and the other the *Antartick*. The Polary Circles.

The *Circles* hitherto explained do not depend on certain Places, such as the following do, which in divers places are various and different.

Seventhly, The *Meridian* of any place in the *Superficies* of the Earth, is a *Line*, so termed, which passeth through that place, in which, when the *Sun* cometh, the *Meridies* is in that place. Now the *Meridies* is that moment of the day, which is equally distant from the rising and setting of the *Sun*. The Meridian.

Theorem.

The Meridian of every place passeth through both the Poles of the Earth.

The *Meridians* are drawn through every ten *degrees* of the *Æquator*, which are the *Meridians* of all those places through which they pass. But instead of the *Meridians* of all other places, that doth supply the place, which is made of *Brass*, and in which the *Globe* doth hang. For Instance; If that any place in the *Superficies* of the *Globe* be brought unto the *Brazen Meridian*, that shall be the *Meridian* of the place.

In Maps of Strait lines the Meridians *are Strait lines drawn from the top, or uppermost part, unto the bottom. In Maps of Crooked lines, they are those Crooked lines which joyn in the Pole.*

Eighthly, The *Horizon* of any place in the *Superficies* of the *Earth*, is the greatest imaginary *Circle* in the Heavens, which terminateth the visible part of the Heaven in that place. It is also termed the *Rational Horizon*, that it may be distinguished from the *Visible Horizon*, which is improperly so called. It hath no place in the *Artificial Globe*, but a Wooden Circle, in which the *Globe* is sustained with its *Brazen Meridian*, and serveth instead of the *Horizon* of any place, as shall be shewed in the next Chapter; and therefore it is termed the *Wooden Horizon*, and simply, the *Horizon*. The Horizon.

These are the *Definitions*, whose knowledge is necessary for the attaining the following Doctrine: besides which, it behoveth us to borrow from *Astronomy* the mode of the Motion of the *Sun* and *Stars*.

The first and common Motion is that, by which the *Sun*, *Moon*, and all the *Stars* seem to be carried roud about the *Earth*, to arise to us, to make the Meridian, and to set; and that in the space of twenty four hours. Every one of the *Stars*, and the *Sun*, every day by this their common Motion, seem to describe Parallel Circles unto the *Æquator*; because that this motion is performed upon the *Axis* of the *Earth*, and the *Poles* of the same; and therefore the *Æquator* is the greatest Circle of this Motion, and the Rule and Square by which we measure the Motion of the other *Parallels*. In every hour they pass fifteen *degrees* through the Meridian, both of the *Æquator* and every other *Parallel*; for 360 *degrees* divided by 24 the *hours*, gives unto every hour The Motion of the Sun, Moon and Stars.

hour fifteen; and therefore one *hour* and fifteen *degrees* of the *Æquator*, make an equal proportion. The *Horary Circle* sheweth the hours; which *Circle* being affixed unto the *Artificial Globe*, is seen in the *Brazen Meridian*, where the Pin or Hand adhereth to the extremity of the *Axis* of the *Earth*, and it is turned about in the *Horary Circle* to shew the hours.

The second motion of the Sun.

Secondly, The proper and second Motion of the *Sun*, which is also Annual, is that in which the *Sun*, (or rather the *Earth*) is moved from West to East, or contrary to its first motion. The time or number of the days, in which the *Sun* returneth unto the same point from whence it departed, or in which it performeth its whole Period or Circle; is termed a *Year*. Now such a Year is 361 *days*, and one *fourth part* of a day, or thereabouts. The Way of this second *Solary motion* is termed the *Ecliptick*, as we have said before, which is divided into *twelve parts*, which are called *Signs:* For *Astronomers* have observed these *Constellations* of the *Heaven*, through which this Way of the *Sun* doth lye; and from these *Constellations* denominated the *twelve parts* of the *Ecliptick*. And because that all *Constellations* represent the forms of *Animals*, therefore the Ancients termed that Way or Ecliptick, the *Zodiack:* Yet those which spake more distinctly, call the *Zodiack*, a *Zone* or *Girdle* in the Heaven, whose middle is the very *Ecliptick* it self, or Path of the *Sun*; but the extream parts from both sides of the *Ecliptick*, are distant from it eight *degrees*, by reason that the rest of the *Planets* have a certain peculiar motion from East to West. In which motion they do not describe the *Ecliptick* it self, but paths declining somewhat from the *Ecliptick*, which declination, by reason that it exceedeth not 8 *degrees*, therefore they do attribute 16 *degrees* of Latitude unto the *Zodiack*, *viz.* Eight from both parts of the *Ecliptick*, so that the *Zodiack* is that space of the Heaven in which the *Planets* are always moving, neither do they ever move out of it: and the *Ecliptick* is the middle Line of the *Zodiack*, which the *Sun* passeth through by an Annual motion, in which it always keeps its fixed course. Moreover, the *Signs* or *Constellations* of the Heaven, through which the *Ecliptick* and the *Zodiack* passeth, are these:

The *Zodiack*, Zone or Girdle of the Heaven.

March 21.

The Signs of the *Zodiack*.

♈	♉	♊
Aries,	*Taurus*,	*Gemini*,

June 21.

♋	♌	♍
Cancer,	*Leo*,	*Virgo*,

September 21.

♎	♏	♐
Libra,	*Scorpius*,	*Sagitarius*,

December 21.

♑	♒	♓
Capricorn,	*Aquarius*,	*Pisces*.

Ecliptick.

Moreover the *Ecliptick* obliquely cutteth the *Æquator*, so that its greatest distance is twenty three *degrees*, and about thirty *minutes*. Where therefore the *Ecliptick* cutteth the *Æquator*, which he doth in two points, in one of these is placed the beginning of the *Ecliptick*, and also the beginning of the accounting of the *Signs*. In those points the *Sun* then being in, causeth the equality of the *days* and *nights* in all places, as also the beginning of the *Vernal*

and Autumnal quarters. We begin to number from that point in which the Sun makes the beginning of the Spring to us; that is, we being scituate from the *Æquator* towards the *Pole Artick*; the first Sign, or first twelfth part of the *Ecliptick*, is termed *Aries*, the second *Taurus*, the third *Gemini*, and so forth as aforesaid; because about twenty Ages past, those Signs of the Heaven were in these very parts of the *Ecliptick*.

Every one of these twelve Signs are divided into thirty Degrees, for the whole *Ecliptick* hath three hundred and sixty Degrees, which being divided by 12 makes 30.

Moreover, seeing that the Sun passeth over the whole *Ecliptick* (that is 360 Degrees) in 365 days, and one fourth part of a day, hence we collect, that in every day he passeth 59 Minutes, and 8 Seconds, which is something less than a Degree.

The Motion of the Sun.

Now as the Sun in a years time, or 12 Months, runneth over the whole *Ecliptick*, or 12 Signs of the *Zodiack*, so also in every Month he passeth about one Sign, but his entrance into the Sign is not at the beginning of the Months, but on the 21th day of every Month; and this is according to the *Gregorian Kalender*, and on the 11th day of every Month according to the old *Julian Account*, *viz.* on the 21th of *March*, he entreth the Sign of *Aries*, or the very Section of the *Ecliptick* with the *Æquator:* then on the 21th of *April* he entreth *Taurus*, and so on. Now this his entrance doth not happen on the 21th of every Month, but in some Months before, and in some after. Therefore when we desire to know the precise place of the Sun, we must look for it in an *Ephemerides*, or in our *Almanacks*. The place of the Sun is found also in the wooden Horizon of the Artificial Globe for every day of the year, when one may search when the Globe is at hand: for it is a grand fault in a learned or knowing person to be ignorant of the Motion of the Sun, seeing that from thence all the seasons of the year, also the days and nights, with many other things do depend, of all which there is great use in the life of man.

CHAP. XXIII.

Of the Latitude of places, and the Elevation of the Pole.

Proposition I.

The Latitude of a place in the Superficies of the Earth is the distance of the same from the Æquator.

Of the Latitude of the Earth.

Now a Perpendicular Line or Arch drawn from the place given to the *Æquator*, measureth this distance; and by reason that the Meridian of every place is perpendicular to the *Æquator*, therefore the Latitude of the place is the Arch of the Meridian of that place intercepted between the place and the *Æquator*.

The Longitude of the Earth.

This is termed the Latitude of the Earth, whose extension is in the Superficies from one Pole to the other: as the Longitude of the Earth is the extension of the same returning from the West by the East, unto the West; which is the same with the Æquinoctial Line.

Proposition II.

The Elevation of the Pole of any place, or above the Horizon of any place, is called the Arch of the Celestial Meridian of that place intercepted between one or other Celestial Pole, and the Horizon of that place.

Elevation of the Pole.

It may also be said to be the Arch of the *Terrestrial Meridian* intercepted between one or other of the Poles of the *Earth*, and the *Horizon*. For by this Mode it may be more justly desired, if that the *Earth* cause the first *motion:* but *Astronomers* for the most part apply the definition to the imaginary *Celestial Pole*.

Proposition III.

To find the Latitude of a place given in the Superficies of the Globe of the Earth, in degrees *and* minutes, (*if that the Globe be great*) *the same Latitude in Geographical Maps.*

For the finding the Latitude of a place by a Globe, or by Maps.

In a *Globe*, let the place given be brought to the Meridian, and let the *degrees* be numbred from the *Æquator* to the place; they shall be the sought for Latitude of the place.

In *Geographical Maps*; if the Map consists of Right lines, let a Right line be drawn through the place given, parallel to the *Æquator*, except it be already drawn in the Map; or let a Rule only be applied to the place, so that it be parallel to the *Æquator:* and so the bounds of this Line in the Side-lines of the Map, will shew the *Latitude* of the place.

But if the *Map* be of Crooked lines, so that no parallel can pass through by the place given; one foot of the Compass shall be placed in the Pole of the *Map*, and the other foot in the place given: and in this space the Parallel of the place to be described in the Side-line, again will shew the *Latitude* of the place; if that the *Parallels* be described from the *Pole*.

Also the distance of the place from the *Pole* may be found out.

Proposition IV.

The Place being given in the Superficies of the Globe, so to constitute the Globe, that the Wooden Horizon may be the Horizon of that place.

Let the Place given be brought to the Meridian, and let 90 *degrees* be numbred from it towards the adjoyning Pole in the Meridian. Let the term of the Numeration be placed in the *Crena* of the Horizon: so the *Wooden Horizon* shall be the Horizon of the place proposed. Nevertheless in the *Corollary* of the following *Proposition*, we shall shew an easier method of performing the same.

Proposition V.

The Latitude of the Place is equal to the Altitude, or Elevation of the Pole, above the Horizon of that place.

This is shewed by the *Globe*, thus; Take a place as you please in the Superficies of the Globe; then so place the Globe, that the Wooden Horizon may be the Horizon of the place. Now let the degrees of *Latitude* of the place, and the Elevation of the *Pole* be numbred, and they will be found equal.

The

The Theorem shewed by a Mathematical Demonstration. See Scheme.

The Theorem is thus shewed by a *Mathematical* Demonstration: Let *C* be the *Center* of the Earth, *L* any place in the *Superficies*, *P* the *Poles*, *H P L Z* shall be the *Meridian*, and *H Z* the *Diameter* of the Horizon; *P H* the *Elevation* of the Pole; *Q T* the *Diameter* of the Æquator, or the *Section* of the Meridian and the Æquator: and *P Q* shall be the *Quadrant* of the Meridian, or of 90 *degrees*, because that *P* is the *Pole* of the Æquator. For the former reason *L H* shall be the *Arch* of 90 *degrees*, because *L* is the *Pole* of the Horizon: Therefore *L H* is the *Arch* of an equal Arch *P Q*, and the common part *L P* being taken away, the remainder of the Arch *P H L Q* will be equal.

The *Latitude* of any place being known, you have also the *Elevation* of the *Pole* for the same place. Now the distance of a place from the *Pole*, and the distance from the *Æquator* joyned together, makes 90 *degrees*, wherefore one being known, the other is also.

A Place being given in the Superficies of the *Globe*, to elevate the *Pole* so, that the elevation of the Place requireth the elevation of the *Pole*. This is the same with what was propounded in the preceding *Proposition*, *viz.* to cause, that the *Wooden Horizon* become the Horizon of the place given. First find out the *Latitude* of the Place, and let the *Latitude* be numbred from the *Pole* in the Meridian, descending downwards towards the Horizon. Let the *Terminus* of the Numeration be constituted in the *Crena* of the Horizon: so the *Pole* will be elevated, as the scituation of the Place given requireth.

Proposition VI.

A Place being given in the Superficies of the Globe, or the Latitude of any Place being given, to shew all the Places of the Earth, which may have the same Latitude or distance from the Æquator, *or Elevation of the Pole: Or, to find all the places of the Earth, which may have the distance given from the* Æquator.

Further Rules to be observed concerning the Latitude of places.

In the *Globe*; Let the Place given be brought to the *Brazen Meridian*, or let the *Latitude* given be numbred from the *Æquator* in the *Meridian* towards the *Pole*: then let a pointed *Chalk* be applied unto the term of the Numeration, and turn the *Globe* round: so the *Chalk* will describe the *Periphery*, which shall contain all the places, whose *Latitude* is the same with the Place given.

In *Maps* of strait Lines, let a strait Line be drawn through the Place given parallel to the *Æquator*; all the Places through which that Line passeth, shall have the same *Latitude* with the place given. In *Maps* of Crooked lines, let the *Periphery* be described passing the place given from the *Pole* of the *Maps*, as from a *Center*: so by the same means as before, the Places sought for shall be found. But if no certain Place, but a *Latitude* be given, let one foot of the *Compass* be placed in the *Pole* of the *Map*, and the other on the side Line to the degree of *Latitude*, and then the *Parallel* shall be described.

Proposition VII.

To find the Meridian, *or the* Plaga, *and point of the North and South in the given place of the Earth, or in the given plane.*

There are divers ways by which the *Line* sought for may be found.

Rules for the finding the Meridian.

First, The most easie Mode is that, which maketh use of the *Magnetical Needle:* For seeing that the *Magnetical Needle*, or *Needle* of the *Compass*, with one extream looketh to the *South*, and the other to the *North*, the extension of it will shew the *Meridian Line*. But because in very few places it hath respect to the *Northern* and *Southern* Point or Clime, and in very many declineth from them, as we shall shew elsewhere; therefore the *Meridian line* is not accurately found by that, but only an adjoyning *line*, which

See in Chapter the 28th.

although

although it may ſerve, when the matter is not much material for which we deſire it; yet in concernment of greater moment it may be the cauſe of a great errour.

First draw the Line which the Magnetical Needle ſheweth, then taking any point in this Line, let the Periphery of the Circle be deſcribed from it, as from a Center, in the which let the Degrees of the Declination of the Needle be numbred, beginning from the falſe drawn Meridian Line, and that towards the Eaſt, if the given Declination be towards the Weſt; and contrariwiſe towards the Weſt, if the given Declination be towards the Eaſt. Laſtly, let a ſtraight Line be drawn through the term of the Numeration of the Center of the Periphery. This ſhall be the true Meridian Line.

The Mariners Compaſs uſeful.

There is no need of this labour, if that you have the Mariners Compaſs at hand, in the which the Declination of the Magnetick Needle is corrected to the place propoſed.

The Meridian Line found by the Stars.

Secondly, The Meridian Line is more accurately found out by the benefit of the Stars: First when the Sun ſhineth, a ſtyle or pin being erected, the ſhadow of it will ſhew the Meridian Line. But by reaſon that it is not ſafe to confide in Dyals, therefore this mode is not altogether accurate, and it ſheweth a true Line, yet a little diſtance from the true.

Thirdly, A Periphery being drawn in a plain given, let a ſtyle or pin be erected from the Center of the ſame, and let the term of the Shadow before the *Meridies* be noted: or firſt, the extremity of the Shadow being noted, let the Periphery or Circumference be deſcribed by the extremity of the Shadow from the place of the ſtyle. Then you muſt expect ſo long after the *Meridies*, until the extremity of the Shadow touch the ſame Periphery.

The Latitude being known, the Meridian Line by the help of the Globe may be found out.

Fourthly, If that the Elevation of the Pole or Latitude in the place of the Obſervation be known, we may by the benefit of the Globe find out the Meridian Line by this means: First by obſervation, let the Altitude of the Sun above the Horizon be found out; then let a ſtrait Line be drawn on a plain, in which the Sun then ſeemeth to be; and a point being taken as a Center, in this Line whatſoever it be, the Periphery is deſcribed: then let the Pole be elevated in the Globe according to the elevation of the place given; let the place of the Sun in the Ecliptick for the day given be noted; let the Quadrant be applied to the Vertex, and in that let the obſerved Altitude of the Sun be marked. Then let the Globe and the Quadrant be moved together until the point of the Quadrant and the noted place of the Sun do meet. The Globe thus remaining, let the intercepted Degrees between the Meredian and the Quadrant of the Vertical point be numbred in the wooden Horizon: let ſo many Degrees be cut off in the Periphery before deſcribed, beginning from the Line of the *Plaga* of the Sun towards the Eaſt or Weſt, as the time of the obſervation ſhall be, and let a right Line be drawn through the term or bound of the Reſection and Center of the Circle. This ſhall be the true Meridian Line.

The invention will be far more eaſie, and without the uſe of the Vertical Quadrant, if the *Plaga* be obſerved, or a Line drawn in the plain, in which the Sun either riſing or ſetting is beheld: For then a Circle being again deſcribed, let the place of the Sun be brought to the Horizon, and let the intercepted Degrees between the place of the Sun, and the North or South be numbred; let ſo many Degrees be cut off in the Periphery deſcribed from the Line drawn; and let a right Line be drawn through the term or bound of the Reſection and Center. This ſhall be the true Meridian Line.

Pro-

Propoſition VIII.

To place a Globe, ſo that the Cardines *of the ſame may reſpect the* Cardines *of the Earth; that is, that the* Brazen Meridian *may be ſeated in the true Meridian of the place.*

Of the placing the Globe.

Let the *Meridian Line* be found in that plain on which the *Globe* ſtandeth, and let the *Globe* be ſo placed that the *Brazen Meridian* may exactly hang over the *Meridian line:* ſo the Globe ſhall be fixed according to the *Plagas* or *Climates* of the World. Or let the *Mariners Compaſs* be placed at the foot of the Globe, and let the Globe, with its foot, ſo long be moved in the plain, until the *Brazen Meridian* and the *Meridian line* of the Compaſs, be found to be in the ſame plain: ſo the Globe ſhall be again conſtituted according to the *Plaga* or *Climates* of the Earth; that is, ſo that the North part of the Globe, ſhall have reſpect to the North part of the Earth; the South to the South, Eaſt to the Eaſt, and Weſt to Weſt.

A Problem may be propounded concerning *Geographical Maps*, (and the uſe is alſo in the Art of *Navigation*) *viz.* ſo to place them on a plain, that the Northern places of them may look towards the North of the *Earth*, the Southern to the South, and the like. The Solution is eaſie, if that a *Meridian line* may be found in that plain, or if you have an accurate *Mariners Compaſs:* for the *Side line* of the Map ſhall be placed on the *Meridian line* of the plain; and ſo the Map ſhall have its required ſcituation.

Propoſition IX.

To find the Latitude of the place from the Heaven, or the Elevation of the Pole above the Horizon of any place, by the benefit of the Stars.

To find the Latitude of a place above the Horizon, by the Stars.

Although the *Latitude* of a place exiſt in the *Superficies* of the Earth, *viz.* its diſtance from the *Æquator*; yet it cannot be found without the *Stars*. The modes of finding the ſame are various.

First, Let the Altitude of the *Sun* above the Horizon be obſerved, when he cometh to the *Meridian line*, and let its complement or diſtance from the Vertex of the *Sun*, be taken. For this, take away the declination of the *Sun* to the day of the Obſervation; that is, if that the *Sun* be fixed in the Southern part of the *Zodiack*; but let it be added, if that it be in the Southern, the reſidue ſhall be the Latitude of the place. But the declination of the *Sun*, that is, his diſtance from the *Æquator*, in the day of the Obſervation, is found from the place of the *Sun*, and that from a Table of the declination of the parts of the *Ecliptick*, or from the Globe; for let the place of the *Sun* be noted in the Globe at the day of the Obſervation, and brought to the Meridian, the *degrees* of the Meridian being intercepted between the *Æquator* and the place of the *Sun*, exhibit the declination of the *Sun* at the day given.

Secondly, The *Sun* riſing or ſetting, by the benefit of the Globe, the *Latitude* ſhall thus be found: Let the *Plaga*, or part in which the *Sun* riſeth or ſetteth, be obſerved, which *Mariners* are accuſtomed to do by their *Compaſs*; (but the true *Meridian line* is required to this.) Let the ſame *Plaga* or *degree* be marked in the Wooden Horizon of the Globe: Let the place alſo of the *Sun* in the Ecliptick, for the day of the Obſervation, be noted; then let the *Brazen Meridian* in the *Crena* of the Horizon be turned thereunto, the *Pole* being more or leſs elevated, until the noted place of the *Sun* meet with the noted place of the Horizon: ſo the elevation of the *Pole* in the Globe, ſhall be the ſame which the place hath, where the Obſervation was made. The Solution will be more eaſie by Calculation; but by reaſon very few *Students* of *Geography* underſtand the ſolution of *Spherical Triangles*, therefore I omit the ſame, which ſhall alſo be obſerved in the following Problem.

Note,

Note, That in the time of the *Æquinoxes*, when the *Sun* is in the begining of *Aries* or *Libra*, then this method hath no uſe, becauſe that then the *Sun*, in one and the ſame *Plaga* or part, riſeth and ſetteth to all places, *viz.* in the part of the true Eaſt or Weſt, or in the *Plaga* of the *Æquinoctial* riſing or ſetting.

See Scheme. Thirdly, When the *Sun* ſhineth at Noon, let the ſtyle or pin *AB* be perpendicularly erected on an *Horizontal plain*, and let the Longitude of the ſhadow *AC*, and the ſtyle *AB* be taken in ſome divided line. Therefore in the *right Angled Triangle ABC* ſhall be both the noted ſides *AB*, *AC*, whence the *Angle ABC* ſhall be found to be the diſtance of the *Sun* from the *Vertex*: *viz.* if that it may be, that as *AB* hath its ſelf to *AC*, ſo the whole *ſign* hath it ſelf to the *Tangent* of the *Angle ABC*; from thence the *Latitude* of the place ſhall be found, as we have ſhewed in the firſt Mode. But if the Obſervation be made on the day of the *Æquinox*, then the diſtance of the *Sun* from the *Vertex* being found, the ſame is the *Latitude* of the place.

The elevation of the Pole at *Rome* and *Carthage*. So *Pliny* writeth in the 72 *Chap.* of his *Second Book*, that in the City of *Rome*, the ninth part of the Gnomon or pin is wanting unto the ſhadow; whence the elevation of the *Pole* is collected to be 41 *degrees*, 25 *minutes*. At *Carthage* the Gnomon hath the ſame proportion to the *ſhadow*, as 11 hath to 7; whence the elevation of the *Pole* is collected to be 32 *degrees*, 13 *minutes*.

Fourthly, In the Night time, when the *Stars* can be ſeen, if we take the Altitude of any *Star* in the Meridian with an Inſtrument, or from a Table know the declination of the *Stars*; thence with little trouble we ſhall find the *Latitude* of the place.

For if that *Star* be ſcituate between our *Vertex*, and the *Semicircle* of the *Æquator* elevated to us, we muſt then add:

But if the declination of the *Star* be Northernly, and the *Star* ſeated between our *Vertex* and the *Polary Star*, we muſt then ſubtract from that declination the diſtance of the *Star* from our *Vertex*; the remaining number ſhall be the *Latitude* of the place.

If that the Declination be Northern, and the *Star* be ſeated between the *Pole Star*, and the proximate part of the *Horizon*, the complement of the declination ſhall be added to the found out Latitude of the *Star*. The aggregate number ſhall give the Latitude of the place, or the elevation of the *Pole*.

If the Declination ſhall be Northern, and the *Star* is placed between our *Vertex*, and that part of the Horizon remote from the *Polary Star*; that declination ſhall be added to the diſtance of the *Star* from the *Vertex*, or to the Complement of the Altitude. The aggregated number ſhall be the *Latitude* of the place.

Finally, if that the Declination of the *Star* be Southern, this muſt be deducted from the Complement of the Altitude obſerved; and the remaining number will ſhew the *Latitude* of the place. Neither in this caſualty doth any variety occur, as in the *Star* of the Northern declination; which is to be underſtood of the places ſcituated between the *Æquator* and the *North Pole*: for it is otherwiſe with the places which lye between the *Æquator* and the *South Pole*.

Fifthly, If the *Plaga* or part be obſerved, in which any *Star* riſeth or ſetteth, the *Latitude* of that place may be found by the benefit of the *Celeſtial Globe*, according to what we have ſaid in the third Mode.

Sixthly, If that you have not a Table of the Declination of the *Stars* at hand, you may obtain the thing required, if that you obſerve ſome *Stars* not ſetting, *viz.* ſuch a one, which in its whole circumrotation is remaining above the Horizon: for thoſe *Stars* come twice to the Meridian, and therefore their *Meridian altitude* is twofold, one greater, and the other leſs. Both theſe muſt be obſerved, and the half difference muſt be added to the leſſer Altitude, or taken from the greater: ſo we ſhall obtain the *Latitude* of the place.

Seventhly,

Seventhly, If we enquire not after an accurate Latitude of a place, but would be contented with one, not much receding from the true; we muſt take the Altitude of the *Polary Star*, when that it hath far departed from the Meridian: for that is equal to the Latitude of the place.

Propoſition X.

The Places of the Earth ſcituated under the Æquator, *have no Latitude or elevation of the* Pole; *but both the* Poles *lye in their Horizon. The places under the* Pole *have the Latitude of* 90 degrees, viz. *the* Pole *in the* Vertex, *and the* Æquator *in the Horizon. The places between the* Poles *and the* Æquator, *have a leſs Latitude than Ninety* Degrees.

The places under the *Æquator* have no Latitude.

The truth of this Propoſition is evident, therefore it needs no Explication.

Propoſition XI.

If we are either on the Sea *or* Land, *and know not the place where we are, let the* Latitude *be found to exhibit that Parallel in the* Globe, *that we may be certain that we are in one point of it.*

This is done after the ſame manner, that we have ſhewed in the ſixth Propoſition, *viz.* a *Parallel* muſt be deſcribed at the given or obſerved Latitude: and this is the *Parallel* demanded. The ſame is alſo eaſie in Maps.

CHAP. XXIV.

Of the diviſion of the Earth into Zones, *and the Celeſtial Appearances in the divers* Zones.

Propoſition I.

From the proper or Annual motion of the Sun, *there ariſeth a certain diviſion of the Superficies of the Earth into five parts or Zones.*

The diviſion of the Earth into 5 Zones. See Scheme. SEeing that the *Sun* doth not always continue in the *Æquator*, but declining from it, deſcribeth by his Motion a path which cutteth the *Æquator*, ſo that his greateſt declination is in $23\frac{1}{2}$ *degrees*, as well towards the North from the *Æquator*, as towards the South, in which declination he deſcribeth the Tropicks of *Cancer* and *Capricorn*: thence it is, that he is not perpetually vertical to the Places lying under the *Æquator*; neither doth he always keep one diſtance from other places, for ſometimes he is more nigh, and ſometimes more remote from a certain place: and variouſly changeth *heat*, *cold*, *warm*, and other conditions of the Seaſons. Theſe which we have now ſpoken of, may be ſhewed as well on the Globe, as in Maps.

A Zone, what A *Zone* is termed a part of the Earth included within the *Tropick* and the *Polary Circle*. And becauſe there are two *Tropicks*, and two *Polary Circles*; thence it cometh to paſs, that there are five *Zones*, *viz.* 1. *Torrid*, 2. *Temperate*, and 2. *Frigid*.

The

Torrid Zone. The *Torrid Zone* is that part of the Earth, which lieth between the Tropicks of *Cancer* and *Capricorn*.

Temperate Zones. The *Temperate Zones*, which lye between one of the Tropicks, and the adjacent Polary Circle: the Northernly Temperate Zone, is that which lieth between the Tropick of *Cancer*, and the *Artick Circle*: the Southernly temperate Zone, is that which lieth between the Tropick of *Capricorn*, and the *Antartick Circle*.

Frigid Zones. The *Frigid* or *Cold Zones*, are those parts of the Earth which lye about the *Poles*, even to the Polary Circles; and they are as well Northernly, as Southernly, cold Circles.

Proposition II.

The Places, according to their Latitudes, in what *Zones* they are in. Those places of the Earth, whose Latitude is less than 23 *degrees* and 30 *minutes*; they lie in the *Torrid Zone*.

Those whose Latitude is 23 *degrees* and 30 *minutes*; they lie in the *Tropicks*, *viz.* in the extremity of the *Torrid Zone*.

Those whose Latitude is greater than 23 *degrees* and 30 *minutes*, and less than 66 *degrees* and 30 *minutes*; they lie in the *Temperate Zone*.

Those whose Latitude is 66 *degrees* and 30 *minutes*; they lie in the Polary Circles, *viz.* in the term of the *Temperate Zone*.

Those whose Latitude is greater than 66 *degrees* and 30 *minutes*; they lie in the *Frigid Zones*.

These are manifest from the definitions of the *Tropical* and *Polary Circles*, which we have treated of in the 23*th Chapter*.

Proposition III.

The Æquator of the Earth passeth through these Places.

Places which the *Æquator* passeth through. Through the Island of St. *Thomas* in the great Bay of *Africa*, which is called the *Æthiopian Ocean*.

Through *Æthiopia*.

Through the *Indian Ocean*.

Through the middle of *Sumatra*.

Through the *Chersonesus* of *Malacca*, and other Islands in the *Indian Ocean*.

Through the *Moluccas* themselves, and the *Pacifick Ocean*.

Through the entrance of the Province of *Peruana*.

By the Lake *Parima*.

Through the *Atlantick Ocean*, even to the Island of St. *Thomas*.

The *Æquator* divideth the *Torrid Zone* into two equal parts, so that they may deservedly be termed two *Torrid Zones*, one Northern, and the other Southern.

These Places lie in the Torrid Zone.

Places which lie in the *Torrid Zone*. The greatest part of *Africa*, the *Indian Ocean*, *Abyssine*, part of *Arabia*, *Cambaja*, *India*. The Isles of the *Indian Sea*, *Java*, *Ceilan*, *Panuia*, *Manico*, great part of the *Atlantick Ocean*, the Island of St. *Helena*, *Brasil*, *New Guinee*.

Places which the Tropick of *Cancer* passeth through. The Tropick of *Cancer* passeth through these places, *viz.* through the Confines of *Lybia*, and other places in the Island *Africa*, through *Syena* in *Æthiopia*. Thence passing the *Red Sea*, beyond the Mountain *Sinai*, and *Mecca*, the Birth-place of *Mahomet*, it passeth through *Arabia Felix*: hence it entreth the *Indian Ocean*, and toucheth the borders of *Persia*, and passeth over *Cambaja*, *India*, and the Borders of *China*, until it come into the *Pacifick Sea*; which being passed over, it falleth in with *California* into the

the Kingdom of *Mexico*; and again entring into the *Atlantick Ocean*, passing the Gulph of *Mexico*, it sweepeth the Coast of the Isle of *Cuba*, and thence returneth to the Occidental shoar of *Africa*.

Places which the Tropick of *Capricorn* passeth through. The Tropick of *Capricorn* passeth through very few places of the Earth; its greatest part lying in the Sea. The places through which it passeth, are, through the Tongue of *Africa*; through *Monomotapa*, *Madagascar*, the *Indian Ocean*, *New Guinea*, the *Pacifick Ocean*, *Peru*, *Brazil*, and through the *Atlantick Ocean*.

Places situate in the Northern and Southern temperate Zones. Many places in the Earth lie in the *Northern temperate Zone*, and those almost all known and inhabited; *viz.* all *Europe*, all *Asia*, (except part of *India*, *Malacca*, and the Isles of the *Indian Ocean*,) great part of *America Septentrionalis*, and part of the *Atlantick* and *Pacifick Ocean*.

In the *Southern temperate Zone* few places lie, and those not fully known, with a large portion of the Sea; *viz.* part of the *Prominent*, part of *Africa*, *Monomotapa*, a great part of *Terra Magellanica*, part of *Brazil*, *Chili*, the Streights of *Magellan*, and a great part of the *Atlantick*, *Indian*, and *Pacifick Ocean*.

Places which the *Artick* and *Antartick* Polary Circles pass through. The *Artick Polary Circle* passeth almost through the middle of *Izland*, through the Upper *Norway*, the *North Sea*, *Lapland*, the Bay of *Russia*, *Samojeda*, *Tartaria*, *America Septentrionalis*, and *Groenland*.

The *Antartick Polary Circle* passeth through *Terra Magellanica*, of which we have little or no knowledge at this day.

Places which lie in the cold Northern and Southern Zones. In the *Cold Northern Zone* lieth part of *Izland*, the Utmost part of *Norway* and *Lapland*, *Finmarch*, *Samojeda*, *Nova Zembla*, *Groenland*, *Spitsberga*, and some part of *America Septentrionalis*, not yet discovered.

In the *Cold Southern Zone*, what it is, whether Land or Water, is unknown.

What we have spoken on hitherto, are shewed by the Globe and by the Maps; but they are proved by the Tables of the *Latitude* of Places, which are made by Observations.

Proposition IV.

In the Places which lye in the Tropicks, *the* Sun *once in every year is only vertical in the* Meridies *or* Noonstead; *but in places lying under the* Torrid Zone, *he is vertical twice a year*, viz. *two days which are equally distant from the Longest day. But in Places without the* Torrid Zone, *and situated without the* Tropicks, *the* Sun *never in any day of the year is vertical.*

The Sun, how oft, and in what places, Vertical. For when the *Sun* is in the first degree of *Cancer*, which is about the one and twentieth of *June*, then he describeth the *Tropick* of *Cancer* in the Heaven; and by how long a space this *Tropick* is distant from the *Celestial Æquator*, by so much the *Terrestrial Tropick* of *Cancer* is distant from the *Terrestrial Æquator*; and so the *Terrestrial Tropick* is subject to the *Celestial*, and the *Sun* therefore becometh vertical to the Places seated in the *Tropick* of *Cancer*. In the places of the *Tropick* of *Capricorn*, it happeneth after the same manner about the twentieth of *December*, the *Sun* then goeing the Sign of *Capricorn*. These are manifest from the Globe, and from Maps.

But for further Explanation, to shew the *Sun* to be vertical twice a year in a place:

Explanation.

Take a place lying in the *Torrid Zone*, and let the place taken be brought to the *Meridian*, and a pointed Chalk being applied, let the *Globe* be turned round, that the Parallel of that place may be described, that will cut the *Ecliptick* in two points, which will be equally distant from the first *degree* of *Cancer* or *Capricorn*. And the *Sun* being in these points of the *Ecliptick* will be vertical in the place taken; for the Parallel which the *Sun* in those days describeth, will directly hang over the Parallel of the place described Wherefore the *Sun* will pass through the *Vertex* of that place, and therefore will be vertical to it in the *Meridies* of these two days; but not so in other days. Now that it is only vertical in the *Meridies* unto places, is perspicuous from his diurnal revolution.

Now that in places scituate without the *Torrid Zone*, and the *Tropicks*, the *Sun* is never vertical, is manifest, by reason that no Parallel of the *Sun* is imminent over the Parallel of those places: for the *Sun* is never vertical in the *Temperate* and *Cold Zones*.

Proposition V.

To places seated in either of the Frigid Zones, *the* Sun *every year some day or other setteth not, and so many days riseth not; and that so many days the more, by how much those days are nigh the* Poles: *so that in a whole place of the* Pole, *for six Months space it setteth not, and ariseth not to another. But in places in the* Artick *or* Antartick Circle, *the* Sun *setteth not, one only day in the year, and one day ariseth not; but other days it setteth and riseth.*

The rising and setting of the *Sun* in places seated in the *Frigid Zones*.

Take any place you please of the *Frigid Zone* in the Globe, and let the *Pole* be so elevated as the Latitude of the place requireth, or that the Wooden Horizon may become the Horizon of the place, as in the preceding Chapter. Then let a pointed Chalk be applied to the *Crena* of the Horizon, which is more nigh the *Pole* elevated; and let the Globe be turned round, so that the Chalk may mark some Parallel of the *Æquator*. This Parallel shall cut the *Ecliptick* in two points, which shall be equally distant from the first *degree* of *Cancer*; and the *Sun* being in any of these points of the *Ecliptick*, and in all Intermedial points, shall not set; which hence is manifest, because the Parallels of the *Sun*, existing in these points, remain above the Horizon in the whole Circumrotation.

On the contrary, If that the Chalk so pointed be applied unto the other *Crena* of the Horizon, and the Parallel be described, we shall find those points of the *Ecliptick*, or the *Arch*, about the beginning of *Capricorn*; in which, whilst the *Sun* is, he doth not arise to that place of the *Frigid Zone*, but remaineth beneath the Horizon. The contrary appeareth, if the place be taken in the cold *Antartick Zone*.

What we have said of the places lying under the *Artick* or *Antartick Circle*, is shewed after the same manner, *viz.* the *Pole* must be elevated to 66 *degrees*, 30 *minutes*: so the Wooden Horizon shall be the Horizon of any place lying under the *Artick Circle*. And it will be manifest, that the Tropick of *Cancer* setteth not, and the *Tropick* of *Capricorn* ariseth not, but that they touch the Horizon; therefore the *Sun* in the first *degree* of *Cancer* setteth not, and in the first *degree* of *Capricorn* ariseth not, but on both days radiateth the Horizon: But in other degrees of the *Ecliptick* it will arise, and set, which may be discerned by the Oriental and Occidental points of the *Ecliptick*.

Proposition

Proposition VI.

In places seated without the Frigid Zone; *that is, in the* Temperate *or* Torrid Zones, *the* Sun *every day riseth and setteth.*

In places without the *Frigid Zones*, the sun riseth and setteth every day.

Take any place in the Globe lying without the *Frigid Zones*, and *Polary Circles*, and let the *Poles* be elevated according to its Latitude, so that the Wooden Horizon doth become the Horizon of that place. If that now you turn the Globe, it will be apparent that all the points of the *Ecliptick* do rise and set; that is to say, sometimes they are depressed beneath, and sometimes elevated above the Horizon. The *Sun* then being in those points doth the same.

Proposition VII.

A place being given that is seated in the Torrid Zone, *to find those two days in the which the* Sun *is vertical to that place.*

Let the place given be brought to the *Brazen Meridian*, and let the *degree* of *Latitude* be marked with Chalk: then move the Globe, until one point or other of the *Ecliptick* do pass through this noted point of the *Meridian*. Let these two points be noted, for they are those in which when the *Sun* is, he is vertical to the place given: let also the days of the Year be found, in which the *Sun* occupieth those points of the *Ecliptick*, which may be done either in the Wooden Horizon, or from a Table, or by the method of the *22th Chapter*, those will be the sought for days; whereof one will be before the *Solstice*, the other after it, in which the *Sun* is vertical to that place, when he cometh to the *Meridian*.

This *Problem* is also easily resolved in Universal *Maps*.

For if a Parallel line be drawn through the place given to the *Æquator*, right, or circular from the *Pole* of the Map in Crooked lines; this being drawn will cut the *Ecliptick* in two points, from which the days of the year will be manifest.

But if you require the resolution of the *Problem* on a Globe, or on Maps, you ought to know the *Latitude* of the place; with this enter the Table of the *Declination*, placed in the *22th Chapter*; and except the days in which the *Sun* hath such a declination: they shall be the days required.

Proposition VIII.

A place being given, seated in the Frigid Zone, *to shew those days in which the* Sun *doth not set to that place, and in what days he riseth not: Also the first and last of those days in which he setteth not to that place, or in which he riseth not to the same.*

Of the rising and setting of the *Sun* in the places seated in the *Frigid Zone*.

In the *Globe*, let the place given be brought to the *Meridian*, and let the *Pole* be elevated for the Latitude of the place: then turning the Globe round, let the points of the *Ecliptick*, which set not, be marked in the *Crena* of the Horizon, and in the other *Crena*, those that do not arise. Therefore that *degree*, which is between the first *degree* of *Aries* and the first of *Cancer*, will shew the first day, in which the *Sun* setteth not to that place: and the other *degree*, between the first of *Cancer* and the first of *Libra*, will shew the last day. And in these days the *Sun* radiateth the Horizon, yet he will remain above it; which yet must be understood of the Center of the *Sun*. But in the Intermedial days, he will perpetually remain above the Horizon. By the same method, those days will be found, in which the *Sun* will remain beneath the Horizon,

Horizon, in the oppoſite part of the year, and the firſt and laſt day of them.

This performed by the Globe. By a more eaſie method this may be done upon the Globe, yet with leſs manifeſt demonſtration. As many *degrees* as the place given is diſtant from the *Pole*, let ſo many be numbred in the Meridian from the *Æquator*, and let the term be noted on both ſides of the *Æquator*: then the Globe being turned round, obſerve what points of the *Ecliptick* paſs through the noted points of the Meridian: For thoſe that are near to the beginning of *Cancer*, and the *Arch* comprehended, will ſhew the days of the perpetual ſtay of the *Sun* above the Horizon of the place given. The other *Arch* within the points, about the beginning of *Capricorn*, will ſhew the days of the perpetual abſence of the *Sun* beneath the Horizon of the place given.

Alſo by Maps. In *Maps*, let the Complement of the *Latitude* of the place, or diſtance of the place from the *Pole*, be numbred in the Side-line of the Map from the *Æquator* towards both the *Poles*, and the Parallel to the *Æquator* be deſcribed through the term of the Numeration, whether the Map conſiſts of Strait, or Crooked lines, as we have ſhewed in the forecited Propoſitions. Theſe Lines ſo drawn ſhall cut the *Ecliptick* each in two points: theſe Points will ſhew the firſt and laſt day of the perpetual ſtay of the *Sun* above the Horizon, and the *Arch* intercepting all the days of the perpetual ſtay. The other Line in the oppoſite points of the *Ecliptick*, will ſhew the perpetual deliteſcence of the *Sun* beneath the Horizon.

Likewiſe by a Table of the Declination. By a Table of the *Declination* it is thus done; If the *Latitude* of the place be known, enter with the Complement of the Latitude the Table of the Declination; and ſeek that declination, ſuch as is the Latitude of the place, which you ſhall find four times, and take thoſe four days in which the *Sun* hath that declination. Two of them, whereof one is between the 21*th* of *March*, and the 21*th* of *June*; the other, the 21*th* of *June*, and the 21*th* of *September*, are the firſt and laſt of the perpetual ſtay of the *Sun* above the Horizon. The other two, of the perpetual ſtay beneath the Horizon of the place propounded; the Intermedial days will be of the perpetual ſtay of the *Sun* above, or under the Horizon.

Propoſition IX.

The day of the year being given, to find thoſe places of the Earth in the Globe, or the Map, in which the Sun *that day is vertical in the* Meridies, viz. *one place after another.*

From the day given, the place of the *Sun* in the *Ecliptick* may be found, according to the method of the 22*th Chapter*.

In the *Globe*; Let the place of the *Sun* be brought to the point of the *Meridian*, which it hangeth over, let the *Globe* be turned round: ſo all the places, which paſs through the marked points, are thoſe which are ſought for.

In *Maps*; Let the place of the *Sun* in the *Ecliptick* be marked, and through it let a right Parallel of the *Æquator* be drawn, or otherwiſe a crooked; as the Table ſhall either conſiſt of ſtrait or crooked Lines. So all the places of this Parallel ſhall be thoſe demanded; but it ought to be in the Hemiſphere of the *Maps*.

By the Table of the *Declination* delivered in the precedent Chapter, the *Latitude* of thoſe places may be found.

Propoſition

Propoſition X.

The day of the year being given, to find thoſe places of the Earth, in which the Sun, viz. *his Center doth not ſet, ſo that this day may be the firſt of all thoſe, in which the* Sun *doth not ſet in thoſe places: And to find thoſe places in which the* Sun *doth not ariſe, with the ſame condition.*

The day of the year being given, to find thoſe places of the Earth, in which the Sun doth not ſet, not ariſe. The day muſt be one of thoſe, which fall between the 21*th* of *March*, and the 21*th* of *June*; or the 21*th* of *September*, and the 21*th* of *December*.

First of all, let the place of the *Sun* in the *Ecliptick* at the day given be found, then the reſt will follow ſo.

In the *Globe*; Let the place of the *Sun* in the *Ecliptick* be brought to the *Meridian*; and how many *degrees* are intercepted between that and the *Æquator* in the *Meridian*, let ſo many be numbred from the *Pole* towards the *Æquator*: or how many *degrees* are between the place of the *Sun* and the *Pole*, let ſo many be numbred from the *Æquator* towards the *Pole*; let the Term of the Numeration be noted with a Chalk, or let a Parallel be drawn to it.

All the places ſeated in this *Parallel* ſatisfie the firſt demand; but thoſe places which are ſought for in the ſecond place, ſhall be in the *Parallel* equally diſtant from the other *Pole*.

In *Maps*; Let the Declination of the *Sun* noted, be numbred from the *Pole* towards the *Æquator*, in the Lateral line, and let the *Parallel* of the *Æquator* be drawn through the Term. All the places lying in this *Parallel* of both the *Planiſpheres* are thoſe demanded: The places of the ſecond demand ſhall be found in the ſame *degrees* in the *Parallel*, diſtant from the other *Pole*.

In the Tables of the *Declination*, let the *Latitude* be found for the place demanded.

Propoſition XI.

To compute the Latitude and Magnitude of all the Zones, *in Miles, or ſome other famous Meaſures.*

The computation of the Latitude and Magnitude of the *Zones* in Miles, &c. The *Latitude* of the *Torrid Zone* is 47 *degrees*, viz. 23½ from both parts of the *Æquator*: the *Latitude* of both the *Temperate*, is 43 *degrees*. The *Latitude* of both the *Temperate*, is 43 *degrees*. The *Latitude* of both the *Frigid*, 47 *degrees*. Theſe *Degrees*, if changed into *Miles*, one *degree* being eſtimated at 15 *German miles*, the *Latitude* of the *Torrid Zone* will be 705 *miles*: one of the *Temperate*, 645; and one of the *Frigid*, 705.

The place requireth, that we ſhould now treat of the *Seaſons* in the divers *Zones* and places; but becauſe ſome of them do appertain unto the following *Chapter*, I have omitted them here.

CHAP.

CHAP. XXV.

Of the Longitude *of the Days in divers Places of the* Earth: *And of the division of the* Earth *into* Climates, *which proceed from them.*

Proposition I.

In two Days of the year are the Æquinoxes, *or the Night equal to the Day in all places of the Earth.*

The Days and Nights in all places are equal in two days of the year.

THe Days are those in which the Sun entreth the *Æquator*, whether he describes the same by Motion, or Diurnal circumvolution; which is, when that he entreth the first *degree* of *Aries*, and the first *degree* of *Libra*, *viz.* on the 21*th* of *March*, and the 21*th* of *September*, according to the *Gregorian Kalendar*. Now we shall shew, that on these days the Night is equal to the Day, consisting of twelve hours in all places of the Earth: Now this Day noteth the stay of the Sun above the Horizon; and the Night, the stay beneath the Horizon.

Take any place in the Globe, and let the *Pole* be elevated for the Latitude of that place, so that the Wooden Horizon may become the Horizon of that place. Then let the first *degree* of *Aries* or *Libra* be placed in the Oriental Horizon, the *Index* at the twelfth hour of the Horary Circle: then turn the Globe, until the first *degree* of *Aries* come to the Occidental Horizon, you shall see that the *Index* in the Horary Circle hath passed twelve hours. The same method may be used to manifest the Night, consisting of twelve hours.

In Places scituated in the *Poles* of the Earth, which are only two; the *Sun* neither riseth nor setteth in these two days of the year, but his Center shall be wheeled round in the Horizon (which is the same with the *Æquator*,) so that they shall have at one time both Day and Night. Seeing therefore that in other places, the term of the Days and Nights is a moment, there, on the contrary, the intire revolution or Natural day, is the term or *medium* of the perpetual appearancy or disappearancy of the *Sun*. And in these two days of the *Æquinoctials*, (the 21*th* of *March*, and 21*th* of *September*,) the half Sun shall be above the Horizon in those two places, and half beneath it. And on the 21*th* of *March* in the *Pole Artick*, it shall make the beginning of a long day of six Months; and on the 21*th* of *September*, shall be the beginning of a long night of six Months, as we shall shew anon: therefore it is no absurdity, that some places for twenty four hours should neither have night or day. Here I shall mention many things peculiar to the *Poles* above other places of the Earth, *viz.*

Several things here noted peculiar to the *Poles*, above other places of the Earth.

1. The *Sun* in a whole year only once riseth, and once setteth; that is to say, it riseth in one *Æquinox*, and setteth in the other.

2. They have no *Meridies*, or Midnight, at a certain time; but at all hours they have a perpetual *Meridies* for six Months, or perpetual Night for six Months.

3. No *Fixed Stars* arise, nor set; but some remain perpetually above the Horizon, and some always beneath it.

4. The *Stars* keep the same Altitude above the Horizon, and distance from the Vertex, as the *Sun* also doth in his whole Diurnal circumvolution.

5. No *Winds* there can be called *Northern*, for they are all Southern in the *Artick Pole*; and contrariwise in the *Antartick Pole*, all Northern, and none Southern, Western, or Eastern.

6. If the *Stars* and *Sun* do not move, but the *Earth*, according to *Copernicus* his Hypothesis, then if the Eye were a point, that it could be seated in the

the Pole, all the *Stars*, *Sun*, and *Moon*, would appear immovable in the same *Plaga*.

All these are easily shewed by the *Globe*.

Proposition II.

In places scituated in the Æquator, *the days and nights are always equal. In the places of the Poles, there is only one day, and one night in the whole year. Now the day is longer than the night in the North Pole; but in the South, the day is shorter than the night.*

The days and nights alwaies equal in places scated in the *Æquator*.

Take any place you please in the Globe, you must shew that in every day in the year, the night is equal to the day; that is, that the *Sun* for so long time remaineth beneath the Horizon, as he doth above it. Take the day of the year as you please, and let the place of the *Sun* be enquired after to it, which is noted in the Ecliptick: then let the place taken be placed in the *Vertex*, that the Poles may hang over the Horizon; for so the Wooden Horizon shall be the Horizon of the places of the *Æquator*. Let the place of the *Sun* be brought to the Meridian, and the Parallel described, which the *Sun* perfecteth that day. Then let the two Points of this Parallel in the Horizon be noted, and it will be manifest, that the Arch of this Parallel above the Horizon, will be equal to the Arch which is beneath the Horizon. And because the Motion of the *Sun* Diurnal is equal, as that of all the *Stars*; therefore in an equal time, it will pass through the equal Arches of the Parallels. So that the first part of the Proposition concerning every day is shewed. Now for the shewing of the other part of the places of the Poles, either of the Poles must be placed in the *Vertex* of the Wooden Horizon, so shall this be the Horizon of the Pole.

And the Globe being turned round, we shall see that one half of the Ecliptick remaineth above the Horizon, and the other beneath it. Therefore whilst the *Sun* is in this, he setteth not, whilst in that he riseth not. And he is more daies in the Northern Semicircle of the Ecliptick, than in the Southern by nine daies. Therefore his perpetual stay above the Horizon shall be longer than beneath it of the Pole *Arctick*. But it is otherwise in the *Antarctick* Pole.

Proposition III.

In places lying beneath the Æquator, *and the Pole, no days are equal to the nights, except the two days of the* Æquinoctials, *but all the rest are either greater or lesser than the nights.*

The days not equal to the nights in places lying under the *Æquator*.

Let any place in the Globe be taken beneath the *Æquator*, and the Pole, and let the Pole be Elevated according to the Latitude of the place, and any day of the year being taken, (except the daies of the *Æquinoxes*). Let the place of the *Sun* for that day be found, and so be noted in the Ecliptick, and being brought to the Meridian, let the Parallel be described, which the *Sun* maketh by his Diurnal Circumrotation. Let the two Points of this Parallel in the Horizon be noted, and it will be manifest, that the Arch of the Parallel above the Horizon is greater or lesser than the Arch of the Parallels lying hid beneath the Horizon, and so the day, or stay of the *Sun* above the Horizon, will be greater or lesser than beneath it.

Or in the place of the *Sun* brought to the Oriental Horizon, let the *Index* be placed above the 12*th* hour of the Horary *Circle*, and let the Globe be turned round, until the place of the *Sun* doth come to the Occidental Horizon. The *Index* in the *Circle* will shew the number of the hours of the day. Then let the *Index* be brought back to 12, and the Globe turned round, until the place of the *Sun* passing beneath the Horizon, returns to the

East. The *Index* again will shew the number of the hours of the night, and the inequality will be manifest.

Proposition. IV.

A Place being given in the Globe, or the Latitude of a place being given, and the day of the year also given, to find how many hours the Sun in that day remaineth above the Horizon of that place, and how many beneath it; that is, to find the Longitude of the day and night for that place at the day given.

Latitude of places.

Let the place of the *Sun* in the Ecliptick at the day given be found. And let it be noted in the Ecliptick of the *Globe*. Let the Pole be Elevated according to the Latitude of the place given. Let the place of the *Sun* be brought to the Oriental *Horizon*, and the *Index* of the *Circle* to 12, let the *Globe* be turned round, until the place of the *Sun* come to the Occidental *Horizon*; the *Index* will shew the number of the hours of the day; the other at 24 will shew the hours of the night.

Proposition. V.

In all places seated between the Æquator, *and the Pole Arctick, the longest day and shortest night, is when the* Sun *enters the first degree of* Cancer; *and the shortest day, and longest night is when the* Sun *entreth the first degree of* Capricorn. *But in the places seated between the* Æquator *and the* Antarctick *Pole it is just contrary.*

Of places seated between the *Æquator* and the Pole Arctick. The daies longest, and nights shortest, when the *Sun* entreth into *Cancer*; and daies shortest, and nights longest when into *Capricorn*.

To shew this on the *Globe*, take what place you please, and let the Pole be Elevated according to its Latitude. Then according to the preceeding Proposition, find out the number of the hours, when the *Sun* is in the first Degree of *Cancer*, then any other point of the Ecliptick being taken for any day of the year, let the number of the hours again be found for that day. And it will be manifest, that the number of the hours of the day, when the *Sun* is in the first Degree of *Cancer*, is greater than the number of the hours of another day. And because this other day is taken at pleasure, and in every day the same Demonstration is in force, therefore the day, when the *Sun* is in the first Degree of *Cancer*, is the longest of all daies, and consequently the shortest night.

After the same way we may shew, that the day is the shortest, when the *Sun* is in the first Degree of *Capricorn*, and the nights the longest.

The same Method of Demonstration shall be observed for places scituated on the other side of the *Æquator*, towards the *Antarctick* Pole.

Proposition VI.

In the Northern places of the Earth, whilst the Sun *moveth from the first degree of* Capricorn, *to the first of* Cancer, *the days continually encrease: and whilst he moveth from the first of* Cancer, *unto the first of* Capricorn, *they continually decrease. But it is contrary in the places Southernly, for they encrease from the first of* Cancer, *to the first of* Capricorn; *and decrease from the first of* Capricorn, *to the first of* Cancer.

Of the encreasing and decreasing of the daies in the Northern places of the Earth.

Take any Northern place you please in the *Globe*, which lyeth between the *Æquator*, and the Pole *Arctick*, and let the Pole be Elevated for the Latitude of that place. Then taking two, or more of the Points of the Ecliptick, which lie between the first of *Capricorn*, and the first of *Cancer*, he quantity of the day may be found for these Points, or for the *Sun* then

then in those points; And it will be manifest, that the day from the day of the first of *Capricorn* being more remote, will be greater than that day which was more near to the same day of the first of *Capricorn*.

The same way we must use in the daies scituated between the first of *Cancer*, and the first of *Capricorn*. And in places seated Southernly, we shall shew the Proposition by such like Method. The Demonstration will be more perspicuous, if that it be done through the Parallel *Arches*, which are above, and under the *Horizon*.

Proposition VII.

If the place of the Earth be more remote from the Æquator, *or more propincate to the* Pole, *than another place, the difference is greater between the daies and the nights, and the longest day is greater, and the shortest night is less. Contrariwise, if the place be more nigh the* Æquator, *the difference between the quantity of the daies and nights is lesser, and the longest day lesser, and the shortest night greater; so that the places near the* Æquator, *or scituate in the* Torrid Zone, *have almost all the days equal to the nights, as the places of the* Æquator *it self, and the exceſs of the longest day above that of the* Æquinoctial *about one hour.*

According to the scituation of the places of Earth to the *Æquator* and the *Pole*, the daies and nights are longer and shorter.

Take in the Globe two places, one more remote from the *Æquator*, the other more nigh, and take what day of the year you please (except the *Æquinoxes*) you may shew that in the place more remote, the day more differeth from the quantity of the night, than in a place more near the *Æquator*.

Let the place of the *Sun* in the *Ecliptick* be found at the day taken, and noted in the *Ecliptick* of the Globe. Then let the Pole be Elevated for the Latitude of the Earth of the one place taken, and let the Longitude of the day and the night, (or the stay of the *Sun* above or beneath the *Horizon*) in that place at the assumed day be found by the sixth Proposition of this Chap. Then let the Pole be Elevated for the Latitude of the other place; and let the Longitude of the day and night, or stay of the *Sun* above or beneath the *Horizon*, be found at the same assumed day. Let this Longitude so found, be compared with the other, and the truth of this Proposition will be manifest.

So that the place more remote hath all the daies of one half year longer, than the place more nigh. On the contrary, it will have all the daies of the other half year shorter.

Corollary, What hath been shewed of all the daies of the year (except the *Æquinoctials*) the same is also of force in the quantity of the longest and shortest day. And in this it is most observed, and noted, because here is the greatest difference between the Longitude of the night and day, not so great in other daies of the year. Therefore of the two places, that which is more remote from the *Æquator*, or more near to the Pole, hath the longest day greater than the place more Vicine to the *Æquator*: and the shortest day lesser.

Proposition VIII.

All places of the Earth scituated in one of the same Parallel, have all the days of the year equal, and therefore the same quantity of the longest day.

The equality of the daies according to their scituation in one of the same Parallel.

The Demonstration of this Proposition is easie by the Globe. Let any Parallel be taken in the Globe, and what places you please. Let the Pole be Elevated for the Latitude of this Parallel, and let any Parallel of the *Sun* be taken for any part of the year: Out of the Degree let the Tropick of *Cancer* be taken for the longest day; let one of the places taken be constituted under the *Meridian*, that so it may possess the *Vertex* of the *Horizon*; or that the Wooden *Horizon* may be the *Horizon* of the place. Then let the *Arch* of the Tropick above

the *Horizon* be noted, or the two points of the ſame which are in the *Horizon*; for the *Arch* in theſe, denoteth the ſtay of the *Sun* above the *Horizon* of the place; then let the ſecond place be brought to the *Meridian* or *Vertex*, that the *Wooden Horizon* may be the *Horizon* of it, and let the *Arch* of the *Tropick* above the *Horizon* again be marked, which if it be compared with the former, we ſhall find that they are equal. The ſame may be ſhewed alſo by hours on the *Horary Circle*.

Therefore the *Sun* remaineth an equal time above the *Horizons* of thoſe places, and therefore the daies ſhall be equal, as alſo the nights.

Definitions.

From theſe aforeſaid *Propoſitions*, the *Original of the diviſion* of the *Earth* into *Climates*, is eaſily to be underſtood.

Obſervations concerning a Climate.

For a Climate is ſaid to be one part of the Earth of thoſe parts into which the Superficies ſcituated between the *Æquator* and the *Pole* is ſo cut by drawn Parallels, that the longeſt day in the Parallel more remote from the *Æquator*, exceedeth the longeſt day of the Parallel more near the *Equator* in a certain part of an hour, or number of hours. *Viz.* Half an hour in places ſcituated even to the *Artick Circle*; in other places a whole hour, or ſome hours, and daies.

The begining of a Climate is called a Parrallel, with which the Climate begineth, and is more nigh the *Æquator*: The end of a Climate is called a Parallel terminating the Climate.

The middle of a Climate is called a Parallel, drawn almoſt through the middle Superficies of a Climate, ſo that in that the longeſt day exceedeth the longeſt day of the begining of a Climate, by a quarter of an hour, or an half difference, wherein the longeſt day of the end of a Climate, exceedeth the longeſt day of the begining of a Climate.

A Parrallel ſpace, is ſaid to be that, which the middle Parrallel of a Climate comprehendeth, with the begining, or end of a Climate.

Propoſition IX.

If more places of the Earth be taken from the Æquator, *towards the* Pole, *whoſe diſtance from the* Æquator *equally augmenteth, from one degree, to* 10, 20, 30, 40 *degrees. The longeſt days in theſe places ſhall not be equally greater, or not equally augment; but they ſhall more augment in places more remote, and where the place is more near to the* Pole.

Touching the length of daies of Places taken from the *Æquator* towards the *Pole*.

To ſhew the Verity of this *Propoſition* by the *Globe*, let places be taken remote from the *Æquator* towards the *Pole* by an equal encreaſe of diſtance, *viz.* for conveniency, Parallels of 10, 20, 30, 40, 50, 60 *degrees* of *Latitude*. For theſe Parallels in the *Globe*, let the *Pole* be Elevated to the *Latitude* of 10 *degrees*, and the firſt *degree* of *Cancer* being brought to the *Oriental Horizon*, and that being noted; let the point of the *Tropick* be alſo noted, which then is in the *Occidental Horizon*. For the *Arch* of the *Tropick* then being above the *Horizon*, ſheweth the ſtay of the *Sun* above the *Horizon* of the place 10 *degrees* of *Latitude*. The hours of this his ſtay may alſo be known by the *Index* and *Horary Circle*.

Then let the *Pole* be Elevated according to the *Latitude* of the ſecond place 20 *degrees*, and the firſt *degree* of *Cancer*, being again brought to the *Oriental Horizon*, let the point of the *Tropick* be noted in the *Occidental*: for the *Arch* above the *Horizon* will again note the ſtay, which alſo may be known by the *Index*, and the *Circle* in the Hours.

The

The ſame may be uſed with places whoſe *Latitude* is 40, 50, 60, 70 *degrees*, and the like; which being done, let the *Diurnal* hours of the *Suns* ſtay above the the *Horizon*, or the *Arch* of the *Tropick* be compared, and it will be manifeſt, that the quantity of the longeſt day doth much more increaſe in places more remote, than in the places more adjacent to the *Æquator*, and therefore the encreaſe of the longeſt day doth more augment, than the encreaſe of the diſtance of the places from the *Æquator*.

Note, what hath been ſaid, and ſhewed concerning the longeſt day, that is true of all the daies of one half of the year, and is demonſtrated after the ſame manner, if inſtead of the Tropick of *Cancer*, the Parallel of the place be taken. And therefore although Generals muſt be delivered generally, yet becauſe the Doctrine of Climates eſpecially requireth the Explication of the increaſe of the longeſt day, therefore we do not obſerve in this Doctrine that Law, καθόλου πρῶτον.

Propoſition X.

If ſo many places or Parallels are ſo taken between the Æquator *and the* Pole, *that the longeſt day of one place, exceedeth the longeſt day of the Vicine place, (which is more nigh the* Æquator) *every where equal in exceſs, or that the longeſt day equally may encreaſe, theſe Parallels ſhall not equally be diſtant one from another,* (viz. *every vicine Couple*) *but theſe which are more remote from the* Æquator, *ſhall have a leſs diſtance than thoſe more near the* Æquator.

Of Parallels between the *Æquator* and the *Pole*.

The truth of this *Propoſition* is ſhewed from the precedent, for if theſe Parallels ſhould be equally diſtant from one another, *viz.* every two Vicine, the quantity of the longeſt day in theſe Parallels would not Augment by an equal encreaſe, as we have here ſhewed. And it is now laid down that the places or Parallels ſo taken equally encreaſe, that the longeſt day may equally increaſe in them; wherefore every two Vicine or near Parallels, ſhall not ſo equally be diſtant one from another, but many Parallels being taken from the *Æquator* towards the *Pole*, on this condition, that the longeſt day may equally encreaſe. Theſe Parallels ſhall not be equally diſtant from one another, but the diſtance of the third from the ſecond, ſhall be leſſer than the ſecond from the firſt, that of the fourth leſs from the third, that of the fifth leſſer from the fourth, and ſo forwards.

Corollary, and becauſe that many of the Climates are ſo taken, that the longeſt day in the final Parallel of the Climate, exceedeth the longeſt day of the begining at the Climate by half an hour; it followeth from this *Propoſition*, that the Climates more remote from the *Æquator*, are leſs broad, or more narrow, then theſe more near the *Æquator*; and therefore the Latitude, and Magnitude of the Climates, decreaſeth towards the *Pole*. Hence it cometh to paſs, ſeeing that the Climates at length would become very narrow towards the *Pole*, if that the ſame exceſs ſhould be kept, *viz.* the exceſs of half an hour, ſo that *Geographers* define the bounds of the Northern Climates not by half an hour, but firſt by whole hours, and then by whole daies.

Pro-

Propoſition XI.

The number of the hours of the longeſt day being given in any place or Parallel of the Earth, to find the Latitude of the place, or Elevation of the Pole *of this Parallel, and to exhibit the Parallel it ſelf in the* Globe; *or to exhibit thoſe places where the longeſt day is ſo great.*

For the finding the Latitude of a place, &c. The longeſt day in all Northern places, is when the *Sun* is in the firſt Degree of *Cancer*.

Let the place of the *Sun* of the longeſt day, be brought to the *Meridian*. Let the *Index* be brought to the 12*th*. hour of the *Horary Cycle*: let the Globe be turned, until the *Index* ſhew that hour of the *Cycle*, from which the given number of the longeſt day is denominated, and then let the point of the Tropick in the *Meridian* be noted. Then let the firſt *degree* of *Cancer* be brought to the Oriental *Horizon*, and the *Meridian* in the *Crena*, be ſo moved to the Pole, Elevated or depreſſed, until the other noted point of the Tropick be in the Occidental *Horizon*; but ſo that the firſt *degree* of *Cancer* be yet in the Eaſt: which being done, number the Degrees of the Elevation of the Pole. For that is the ſought for Elevation, or Latitude of the Parallel, which you ſhall find in the very Globe it ſelf, if you number ſo many Degrees in the *Meridian* from the *Æquator* towards the Pole, and a *Chalk* being applyed, you may turn round the Globe to the term of the Numeration. For the deſcribed Parallel is that which is ſought. The Probation of the Method is eaſie.

Propoſition XII.

The number of ſome days being given, to find out the Latitude of the places, or Parallels, and to exhibit the place of the Frigid Zone *on the Earth, when the* Sun *for ſo many days ſetteth not, and for ſo many more ariſeth not.*

Further concerning the Latitudes of places.

Let the number of the daies be divided in half, and let ſo many Degrees be numbred in the *Ecliptick* from the firſt Degree of *Cancer*, as that divided or half number is, or as many Unites as this hath, (the Numeration may be made from both parts of this begining.) Let the term be be noted with *Chalk*, if the daies be more than thirty; the number of the Degrees muſt be taken leſſer than an Unite. Then let this noted point be brought to the *Meridian*, and let the Degrees interrupted between that and the Pole be numbred. For theſe are the ſought for Elevation of the Pole, or Latitude of the places, wherein ſo many daies as are given, the *Sun* ſetteth not, and in ſo many daies riſeth not. You ſhall find the very places and Parallels in the Globe, if that you number the found out Latitude from the *Æquator*, towards the Pole in the *Meridian*, and deſign the Parallel by *Chaulk* applyed to the Term. For this is that ſought for, and it containeth all the places ſought for.

For the Demonſtration of this Solution, let the Pole be Elevated for the Latitude of the places found out, and it will be manifeſt, that the noted Degrees of the *Ecliptick* about the firſt Degree of *Cancer* ſet not beneath the *Horizon*, but remain above it. The *Sun* therefore paſſing over theſe points of the *Ecliptick*, ſetteth not: now he paſſeth through theſe points in ſo many days, as are given, as is apparent by the conſtruction. After the ſame manner we ſhall ſhew the truth of this Solution concernig the daies, in which the *Sun* doth not ariſe at all in the places Parallel found.

Corollary,

Corollary, It is eaſie therefore to find the Elevation of the *Pole* of thoſe places, or *Climates*, which lie in the *Frigid Zone*, where the longeſt day encreaſeth not by hours, but by a number of whole daies.

Propoſition XIII.

To frame or compoſe a Table of the Climates.

Of the making a Table of the Climates.

This is called a *Table* of *Climates*, in which at the beginning, middle and end of every *Climate*, the Elevation of the *Pole*, or Latitude of the Parallel, and the very quantity of the longeſt day is found noted, as alſo the interval of the *Climates*, or diſtance of the Parallels.

The *Conſtruction* is eaſie, for from the order of the *Climates*, the quantity for the longeſt day for the beginning, middle, or end of every *Climate* is found, by adding $\frac{1}{4}$ of an hour, to twelve hours by a continual Succeſſion.

Then from the quantity of the longeſt day of every Parallel, is found out the Elevation or Latitude of the *Pole* of every one of them, according to the XI. *Propoſition*.

Laſtly, you have the interval, or Latitude of the *Climates*, if you take the Latitude of the beginning Parallel, from the Latitude of the ending Parallel. All theſe being noted in the *Table*, we ſhall have a Table of the *Climates*, which I have hereunto annexed.

A Table of the Climates and Parallels.

Climates.	*Parallels.*	*Longest days.* hours.	min.	*Elevation of the Pole.* deg.	min.	*The Interval.*	
The first.	The beginning, middle, end, & beginning of the 2.	12	0	0	0		
		12	15	4	15	0	1
		12	30	8	25	8	25
The second.	The middle.	12	45	12	30		
	the end.	13	0	16	25	8	
The third.	The middle,	13	15	20	15		
	the end.	13	30	23	50	7	25
The fourth.	The middle,	13	45	27	40		
	the end.	14	0	30	20	6	30
The fifth.	The middle,	14	15	33	40		
	the end.	14	30	36	28	6	8
The sixth.	The middle,	14	45	39	2		
	the end.	15	0	41	22	4	52
The seventh.	The middle,	15	15	43	32		
	the end.	15	30	45	29	4	7
The eighth.	The middle,	15	45	47	20		
	the end.	16	0	49	1	3	31
The ninth.	The middle,	16	15	50	33		
	the end,	16	30	51	58	2	7
The tenth.	The middle,	16	45	53	17		
	the end.	17	0	54	27	2	49
The eleventh.	The middle,	17	15	55	34		
	the end.	17	30	56	37	2	10
The twelfth.	The middle,	17	45	57	32		
	the end.	18	0	58	29		
The thirteenth.	The middle,	18	15	59	24		
	the end.	18	30	59	58		
The fourteenth.	The middle,	18	45	60	40		
	the end.	19	0	61	18		
The fifteenth.	The middle,	19	15	61	55		
	the end.	19	30	62	25		
The sixteenth.	The middle,	19	45	62	54		
	the end.	20	0	63	22		
The seventeenth	The middle,	20	15	64	40		
	the end.	20	30	64	6		
The eighteenth.	The middle,	20	45	64	30		
	the end.	21	0	65	49		
The nineteenth.	The middle,	21	15	65	6		
	the end.	21	30	65	21		
The twentieth.	The middle,	21	45	65	35		
	the end.	22	0	65	47		
The 21*st*.	The middle,	22	15	66	57		
	the end.	22	30	66	6		
The 22*d*.	The middle,	22	45	66	14		
	the end.	23	0	66	20		
The 23*d*.	The middle,	23	15	66	25		
	the end.	23	30	66	28		
The 24*th*.	The middle,	23	45	66	30		
	the end.	24	0	66	31		

The

The *Climates* were wont to be extended no further, because that in the following places the Longest day doth not increase by hours, but by whole Days, or Diurnal revolutions; and it is lost labour to compute them. Notwithstanding the following *Canon* will shew the Elevation of the *Pole*, or Latitude of the Places, where the Longest days increase by whole Months.

Months,	1	2	3	4	5	6
The Latitude of the places	deg. min.	deg. min.	deg. min.	deg. min.	deg. min.	deg. min.
	67 20	69 30	73 20	78 20	84 0	90 0

Proposition XIV.

To explain the method of other Geographers *in reckoning of the* Climates, *and making the Table of the* Climates.

The Ancient *Geographers*, especially the *Grecians*, who supposed only a small portion of the Earth to be inhabited, because that as well the places Northernly, as those of the *Torrid Zone*, they denied, as impossible to be inhabited; therefore they divided only that portion of the Earth, which they knew, into *Climates*, and so only numbred seven *Climates* from the *Æquator* towards the *Pole Artick*, and named them from some noted place, through which the Parallel of the *Climates* passed; *viz.* The division of the Earth into Climates, by the Ancient *Geographers*.

The first *Climate* they called, the Climate through *Meroe*, (which is an Island and City in *Africa*, encompassed by the *Nile*.)

The second, through *Syene*, a City of *Ægypt*.

The third, through *Alexandria* in *Ægypt*.

The fourth, through the Island of *Rhodes*.

The fifth, through the *Hellespont*. Others through *Rome*.

The sixth, through *Borysthenes*, a famous River of the *European Sarmatia*.

The seventh, through the *Riphæan* Mountains of *Sarmatia*.

The Ancients numbred not the other *Climates* from the other side of the *Æquator* towards the South, because all those places were unknown to them; and many thought, that the Sea possessed all the *superficies* of the Earth. Which, seeing it seemed somewhat improbable to the latter, these also numbred the *Climates* from the other side of the *Æquator*: and they named them, not from any noted places, (for they had no knowledge of any,) but by the same appellations with those of the Northern, only preposing the Preposition ἀντὶ, as the Climate ἀντὶ διὰ Μερόης; as if you should say, the Climate opposite to the Climate through *Meroe* or *Syene*, &c.

But when through progress of time, they discovered many parts of the Earth lying towards the *South Pole* to be inhabited, many more Climates were numbred and constituted. Some named the eighth Clime from the *Palus Mæotis*; the ninth, from the *Baltick Sea*; the tenth, the eleventh, and the rest, from other places. Which denominations, although not necessary for the construction of a Table, yet they may be added unto our Table in those *Areæ*, where we have placed the number of the Climates: for so the Climates will stick closer in our memory, as also the Places in every Climate; and we may be able to make a better comparison between the difference of Cold and Heat. But this is better to leave to the Industry of the Reader, and to those that are Studious, than to add it to it, that so we may afford them a greater occasion of contemplating the *Terrestrial Globe*; and by this means may more easily commit them to Memory. Other Climates added by the Ancients.

Where the Ancients began the Climates.

You must also take notice, that the Ancients did not begin the Numeration of the Climates from the *Æquator* it self, as our Table doth, but from the Place or Parallel, where the Longest day consisteth of 12½ hours; and therefore their first Climate is the second in our Table, their second our third, and so on: for they supposed those places, which we ascribe to the first Climate, could not possibly be inhabited by men, by reason of the excessive heat of the *Sun*, that therefore they judged it not meet to reckon those places; but seeing that Experience hath demonstrated the contrary, we would observe their Mode of naming and constituting of those Climates.

The first Climate of 9 degrees of Latitude.

Ptolomy beginneth the first Climate from the Parallel, where the Longest day is 12¼ hours; or where the Latitude or distance from the *Æquator*, is four *degrees* 15 *minutes*.

The matter is of no great concernment; yet it is better to begin from the *Æquator*, that all the places may lie in some Climate.

Proposition XV.

To shew the use of the Table of the Climates.

1. The *Latitude* of some place, or Elevation of the *Pole*, being given, to know the quantity of the Longest day in that place, and the Climate in which it lieth.

Let the given Elevation of the *Pole* be sought in the Table, and on the opposite Region we shall find both the quantity of the Longest day, as also the Climate and the Parallel. If that the given Elevation cannot be found in the Table, then take that Elevation which is less near, or the like, which is found in the Table.

From the Longitude of the Longest day of any place, to know the Latitude of the place, and the Parallel and Climate.

2. The *Longitude* of the Longest day of any place being given, which any person hath observed, or received by relation, to know from thence the *Latitude* of that place, the *Parallel*, and the *Climate* in which that place lieth.

Enter the Table with the *Latitude* given, and you shall see on the opposite Region both the Latitude and the Place demanded; as also the Climate and Parallel.

3. A Climate being given, to determine the *Longitude* of the Longest day, and the Elevation of the *Pole*.

This is facil from the very sight of the Table.

CHAP.

CHAP. XXVI.

Of the Light, Heat, Cold, Rains, in the diverse parts of the Earth *or* Zones, *and other properties of the* Zones.

Proposition I.

These Causes are efficacious to generate and procure Light, Heat, Cold, and Rain, with other Meteors in the places of the Earth, and the vicine Air.

Of the causes of Heat.

1. *The more, or less, or no obliquity of the Rays of the* Sun *coming to, or emitted on any place.* For the Rays falling perpendicular on any place cause great heat, and the other Rays sliding obliquely, have for that very reason a less power of heating, by how much the obliquity of them is the greater; that is, by how much the more they decline from the perpendicular Ray.

2. *The diurnal stay of the Sun above the* Horizon *of the place.* For the same heat maketh more hot, and changeth the Air in a longer time, than in a shorter.

3. *The depression of the Sun beneath the* Horizon, *being more or less in the Night season.* For this difference of depression causeth, that either more or less Light is perceived in the Air; also more or less Heat, Rain, thick Clouds. Hitherto belongeth the Twilight.

4. *The more or less Elevation of the* Moon *above the Horizon, the more or less depression of the same beneath the Horizon; the more or less Diurnal stay of the same above the Horizon.* The Causes are the same with those alledged in the three foregoing Paragraphs.

The Planets and fixed Stars, raise Vapours, &c. in the Air.

5. *The same may be said of* fixed Stars, *especially of those more noted ones, and of the five other Planets*, Saturn, Jupiter, Mars, Venus *and* Mercury. For they generate some light and heat in the Air, although it be but little, and change the Air divers ways, and raise Vapours, if that we may credit *Astronomers*.

6. *The propriety or species of the* Earth *of every place.* For where the Earth is more *stony* and *rocky*, there for the most part it is more Cold, than where it is *sulphureous* and *fat*; and here again it is more fertil. Where there is much *Sand*, and no *Rivers*, there is greater Heat.

Fumes and Mists proceed from Lakes.

7. *Lakes, or the Sea adjacent.* From thence also Fumes and Mists are raised more moist and frequent in the Air; and the Rays are less powerfully reflected from the *Sea*, than from the *Earth*.

8. *The scituation of Places.* For the *Sun* acteth otherwise on Mountains and Mountainous places, than on Valleys and Plains. Moreover *Mountains* hinder the free access of the Rays of the *Sun* to the subject places; for to them the Vapours of the Air are in some sort attracted; whence the *Mountains* change the seasons of the adjacent places, as Heat, Rain, and the like. For these would be otherwise in the Subject places, if that the *Mountains* were absent. See Chap. 20.

The Winds cause difference in the weather.

9. *The* Winds *especially, the general.* So the *Etesian winds* temperate and allay the *Canicular heat*. A general Wind in the *Torrid Zone*, especially the *Subsolan winds* in *Brasilia*, render the Heat temperate; when in *Africa*, which is Occidental, the Heat is vehement, because these places feel not so general a Wind. The *Northern winds* are cold and dry; the *Southern*, warm and moist in our places.

10. Clouds, Rain *and* Fogs, *take away and diminish* light *and* heat. I suppose that there are not many causes of this variety in *light* and *heat*, &c. which is observed in divers places of the Earth, or also in the same places; but yet in a different time or season.

Proposition II.

How are the Seasons of the year, Spring, Summer, Autumn *and* Winter, *to be defined?*

The four Seasons of the Year.

Although in Sciences we ought not to contend and dispute concerning Definitions; yet because certain *Homonymes* or Likenesses do here occur, without the Explication of which there will arise much confusion in the following Doctrine: therefore I will so propose this Question, that you may the more cautiously avoid this *Homonyme*, that they may not be deceived and intangled by the same.

According to *Astronomers* and *Astrologers*.

The Question comprehendeth two difficulties: first, *Whether these Seasons ought to be defined from the entrance of the Sun, and his stay in certain signs of the* Ecliptick *and* Zodiack? For so *Astronomers* and *Astrologers* commonly do, saying, that that is the *Spring*, whilst the Sun moveth from the first degree of *Aries* to the first of *Cancer*: that is *Summer*, whilst the Sun moveth from the first of *Cancer* to the first of *Libra*: that is *Autumn*, whilst the Sun moveth from the first of *Libra* to the first of *Capricorn*: and that is *Winter*, whilst the Sun moveth from the first of *Capricorn* to the first degree of *Aries*. Now it is manifest, that these Definitions are not general and agreeable to all places, because they are only of force in the Northern places (scituated from the *Æquator* towards the *Pole Artick*,) and not in the Southern: so that for these Definitions, the same persons bring Definitions contrary to the former; saying, that in these places, the *Spring* beginneth from the first degree of *Libra*, proceeding unto the first of *Capricorn*: the *Summer*, from the first of *Capricorn* to the first of *Aries*: the *Autumn*, from the first of *Aries* to the first of *Cancer*: and the *Winter*, from the first of *Cancer* to the first of *Libra*.

But from thence it would follow, that those Seasons cannot possibly be defined; which is false; and Generals ought to be defined by Generals. Secondly, Definitions so made, cannot have place in the places of the *Torrid Zone*; for when the Sun passeth through the *Vertex* of those places, then every one will then confess, that there ought to be *Summer*, except some other cause obstructed, in respect of the Celestial cause: and so in places scituated in the *Æquator*, the Spring or Summer ought not to be in the entrance of the Sun into the first degree of *Aries*, or *Libra*; but rather the Summer, because then he passeth through the *Vertex* of those places, and causeth great heat; except some other cause hinders. Neither can the Summer be transferred unto the first degree of *Cancer*, or *Capricorn*. The same also holdeth, concerning places scituated between the *Æquator* and the *Tropicks*; because the Sun passeth through their Vertex, before that he draweth near to the first degree of *Cancer*, or *Capricorn*, and therefore first causeth the Summer there. For we must know, that although Definitions may be free, yet seeing that by the common notions of all Nations, they define the Summer by Heat, and the Winter by Cold, or at least, by a lesser degree of Heat; and so the Definitions ought to be made, that they may render as little as may be from these Notions, and in no sort be contrary to them.

The same difficulty is, concerning the Spring and Autum of the places of the *Torrid Zone*; yea, they do not seem to have place here, especially in places which lye in the *Æquator*.

The

Of Heats and Cold.

The second difficulty, for which this Question is proposed, *is this, Whether the Seasons are to be defined from the very degree of heat and cold*, viz. the Spring, Summer, Autumn *and* Winter; *or from the access or recess of the Sun?* For the common notion of the Men of *Europe*, which they form concerning those Seasons, or in which they do conceive them, comprehendeth both, although they have more respect to *heat* than *cold*: But *Astronomers* are more attentive to the *access* and *recess*, or entrance of the *Sun* into certain Signs of the *Zodiack*, as we have said before. Moreover it is observed in many places of the *Torrid Zone*, that those Seasons answer not the access and recess of the *Sun*; but that contrary to the Celestial motion of the *Sun*, they are tried by a Winter (raging, not with *cold*, but with *storms* and *rains*,) when they should have Summer, by reason of the vicinity of the *Sun*; and on the contrary, they have Summer when the *Sun* is remote, when they should have Winter, (of which more anon,) and so those People define not the *Summer* and *Winter*, by the access of the *Sun*, and his entrance into certain Signs; but they define the *Summer* by its serenity, and the *Winter* by its rain and somewhat cold Air. And so it is impossible to make definitions of the *Spring*, *Summer*, *Autumn*, and *Winter*, as to be general and agreeable to all these places, according to the notions of the People.

These difficulties thus considered, I thus think; First, seeing that in many places of the *Torrid Zone*, (as we have spoken in the second difficulty,) and also some certain places of the *Temperate Zones*, Heat and Cold happen contrary to the Celestial mode or motion of the *Sun*; yet notwithstanding those definitions cannot be made accurately by Heat and Cold: therefore these terms of the *Seasons* must be distinguished, as being *Homonymical*, so that we must make some *Seasons* to be Celestial, and others Terrestrial. I confess these terms to be less fit, but the want of better doth compel me to use them: so that it is termed the *Terrestrial Summer* of any place, in which, in that place a great heat is caused every year by the *Sun*; but the *Celestial Summer* is termed that season of the year, wherein a great heat ought to be in that place, by reason of the vicinity of the *Sun*. So that is termed the *Celestial Winter* of a place, in which season Cold should be in that place, by reason of the great distance of the *Sun*; but that season is termed the *Terrestrial Winter* of any place, in which there is very great Cold in that place every year. And although in many places the *Celestial* and *Terrestrial Winter* happen in one season of the year; as also the *Celestial* and *Terrestrial Summer*; yet there are some places of the *Torrid Zone*, where they observe divers *Seasons* of the year, as we shall shew in the following discourse. The same should be said of the *Celestial* and *Terrestrial Spring*, and likewise of the *Autumn*.

Secondly, Seeing that there are few places, where the *Terrestrial Summer* and *Winter* differ from the *Celestial* in the season of the year; but in most places fall in with the same time of the year: therefore the *Celestial Summer* may be absolutely termed the *Summer*; so also the *Winter*, the *Spring*, and the *Autumn*. But when we speak of the Terrestrial, we must add the word *Terrestrial*; but where we simply say, the *Summer*, the *Winter*, *Spring* and *Autumn*, we are to understand the *Celestial Seasons* agreeing with the *Terrestrial*.

But how shall we make distinct and accurate definitions of the *Summer* (*viz.* the *Celestial*) the *Winter*, the *Spring*, and the *Autumn*, so that they may be general for all places, and also take place in the *Torrid Zone*?

I know no other Mode, whereby such definitions may be made, but only this:

The definitions of the four Seasons of the year.

1. The *Celestial Summer* of any place, is that season of the year, whose beginning is that day in the *Meridies* of which, the *Sun* hath the least distance from the *Vertex* of the place, (and that in the first season, if the *Sun* become vertical to that place in two seasons.) The end that day, in whose *Meridies* the Sun receiveth a moderate distance from the first *Vertex* of that place, or whether it be lesser than that of all other days of the year.

2. That

2. That is termed the *Winter* of any place, the beginning of which is that day, in whose *Meridies* the Sun obtaineth the greatest distance from the *Vertex* of that place. And the end that day, in whose *Meridies* the Sun acquireth a moderate distance from the *Vertex* of that place.

3. That season is termed the *Spring* of any place, which falleth between the end of the *Winter*, and the beginning of the *Summer*: or whose beginning is that day, in the *Meridies*, of which the Sun hath acquired a moderate distance from the *Vertex*, when he hath come from a great distance. And the end is that day, where in whose *Meridies* the Sun hath acquired a very small distance from the first *Vertex* of the place.

4. The *Autumn* of any place is termed that season of the year, falling between the end of *Summer* and the beginning of *Winter*; or whose beginning is that day, in the *Meridies* of which the Sun receiveth a mean distance from the *Vertex* of the place coming from a lesser. And the end that day, in the *Meridies* of which the Sun hath obtained a very great distance from the *Vertex* of the place.

According to these Definitions, *Spring*, *Summer*, *Autumn* and *Winter*, may be attributed to all places of the Earth. Neither is it easie to find out any other Mode of defining them, so that they may agree with all places. Now these Definitions being laid down, let us come to the matter it self.

Proposition III.

The Celestial Summer *of the places of the Earth, which lye between the* Tropick *of* Cancer *and the* Pole Artick, *beginneth with the entrance of the* Sun *into the first degree of* Cancer (viz. *the* 21 *of* June) *and ends with the entrance of the* Sun *into the first degree of* Libra (viz. *the* 21 *of* September,) *and that together at once in all those places. So that* Autumn *is in those places, the* Sun *going from the first of* Libra *unto the first of* Capricorn: *the* Winter, *whilst the* Sun *moveth from the first of* Capricorn *to the first of* Aries: *the* Spring, *whilst the* Sun *moveth from the first degree of* Aries *unto the first of* Cancer.

Further, concerning the Seasons of the Year.

The truth of this Proposition is easily shewed by the antecedent Definitions, and may be demonstrated on the Globe, and in Universal Maps: For the Sun coming to the first degree of *Cancer*, hath the least distance in the *Meridies* from the *Vertexes* of every one of the places of the *Northern*, *Temperate*, and *Frigid Zone*. After the same Mode, the Sun in the first degree of *Libra* hath a moderate distance from those *Vertexes*: In the first of *Capricorn* a greater: In the first of *Aries* a moderate, and he ascendeth to a more great, which is apparent, both from the declination of the Sun, and from the Globes and Maps. Therefore it is inferred, by the Definitions laid down before that the *Summer*, the *Winter*, and the *Spring* of those places, begin and end in those days we have spoken of.

The *Summer* of those places of the Earth, which lye between the Tropick of *Capricorn* and the *Antartick Pole*; or those of the Southern Zone, *temperate* and *frigid*, beginneth with the entrance of the Sun into the first of *Capricorn* (*viz.* 21 of *December*,) and ends with the entrance of the Sun into the first of *Aries*, (*viz.* the 21 of *March*.) The *Autumn* of those places beginneth with the entrance of the Sun into the first of *Aries*, and ends with the entrance of the Sun into the first of *Cancer* (*viz.* the 21 of *June*.) With this the *Winter* of those places beginneth, which endeth with the entrance of the Sun into the first of *Libra* (*viz.* 21 of *September*:) And with this their *Spring* beginneth, and endeth with the entrance of the Sun into the first of *Capricorn* (*viz.* 21 of *December*,) where the *Summer* beginneth again.

These

These are shewed after the same Mode, by the Definitions delivered, and by the Globe or Maps, by which we shewed the former, because in the first degree of *Capricorn* the Sun hath the least distance from the Vertexes of those places: In the first of *Aries*, a moderate, and descends to the less: In the first of *Cancer*, the greatest: In the first of *Libra*, a moderate, and ascendeth to a greater.

But the *Celestial Summer*, *Spring*, *Autumn*, and *Winter* of the places of the Earth, which lie in the *Torrid Zone*, between the Tropick of *Cancer* and *Capricorn*, do not begin on one and the same day of the year, but on divers days in every place of diverse Parallels, or of a diverse Latitude of this *Zone*. Now the places of the *Torrid Zone* are threefold, *viz.* the places of the *Æquator*; the Northern places of the *Torrid Zone*; and the Southern places of the *Torrid Zone*.

1. *The Places lying in the* Æquator *have this peculiar to them, that they enjoy two* Summers, *two* Winters, *two* Spring seasons, *and two* Autumns, *and that in every Year*: so that in half a year they have, or ought to have those four Seasons, according to our Definitions, and the Celestial Law. They have again the same four Seasons, from the 21 of *September* to the 21 of *March*, *viz.* one *Summer*, whilst the Sun moveth from the first degree of *Aries* to the second of *Taurus*, (from the 21 of *March* to the 22 of *April*.) Half a year, is from the 21 of *March* to the 21 of *September*.

Autumn, whilst the Sun moveth from the second degree of *Taurus* to the first of *Cancer*, (from the 22 of *April* to the 21 of *June*.) The motion of the Sun in the 12 Signs of the *Zodiack*.

Winter, whilst the Sun moveth from the first degree of *Cancer* to the second of *Leo*, (from the 21 of *June* to the 19 of *August*.)

The *Spring*, whilst the Sun moveth from the 28*th* degree of *Leo* to the first of *Libra*, (from the 19 of *August* to the 21 of *September*.)

The other *Summer*, whilst the Sun moveth from the first degree of *Libra* to the second of *Scorpio*, (from the 21 of *September* to the 22 of *October*.)

The other *Autumn*, whilst the Sun moveth from the second degree of *Scorpio* to the first of *Capricorn*, (from the 22 of *October* to the 21 of *December*.)

The other *Winter*, whilst the Sun moveth from the first degree of *Capricorn* to the 28*th* of *Aquarius*, (from the 21 of *December* to the 19 of *February*.)

The other *Spring* is, whilst the Sun doth move from the 28*th* degree of *Aquarius* to the first of *Aries*, (from the 19*th* of *February* to the 21 of *March*.)

All these are easily demonstrated from the Definitions laid down, because that the Sun in the first degree of *Aries*, and in the first of *Libra*, hath the less distance in the *Meridies*, from the Vertices of the places lying under the *Æquator*; for it hath none, because it is vertical unto them: therefore then do the *Summers* begin. Then in the second degree of *Taurus* and the second of *Scorpio*, (where the declination of the Sun is 11 *degrees* 45 *minutes*) it acquireth a mean distance, departing to a greater: then therefore the *Autumns* do begin. Moreover, when he is in the first degree of *Cancer* and the first of *Capricorn*, he hath a greater distance from the places of the *Æquator*: therefore then do the *Winters* begin. Finally, on the 28*th* degree of *Leo*, and the 28*th* of *Aquarius*; he receiveth a moderate distance from the places of the *Æquator* (10 *degrees* 45 *minutes*,) ascending towards the least; and therefore then doth the *Spring seasons* begin. These are understood more perspicuously from the *Globe*; therefore here these Seasons may be distinguished thus, according to the Celestial Laws, notwithstanding the Terrestrial Seasons are in many places of the *Æquator* otherwise observed, as we shall shew in the following Propositions.

2. *All the Places of the Earth, lying under the* Torrid Northern Zone, *have the end of the* Autumn *and the beginning of the* Winter *together, both at one time, viz. the* 21 *of* December; *but they have not together the beginning and end of the* Summer *and* Spring, *as also the* Autumn; *but different places have them in several days.*

For

Other Observations about the beginning of the Seasons.

For the end of the *Autumn*, and the beginning of the *Winter* in those places, is, when the *Sun* obtaineth the greatest distance that possibly he can from the *Vertex* of those places, as it is laid down in the Definitions. And it is true concerning all the places of the *Torrid Northern Zone*, that the *Sun* entring into the first degree of *Capricorn* acquireth the greatest distance in the *Meridies* from the *Vertex* of those places, because that in all the other days he is more near to those places. Therefore the *Sun* being entred into the first degree of *Capricorn*, the beginning of the *Winter* happeneth to all those places; and also the end of *Autumn*, which is the first part of this Proposition.

The other part is also easily proved; for if these places be of a diverse *Latitude*, then the *Sun* is not vertical in the *Meridies* to those places in the same days, but in diverse: for then is the beginning of the *Summer* of any place of this *Torrid Zone*, when the *Sun* by his ascent from the first of *Capricorn* cometh to that degree of the *Northern Ecliptick*, that he is vertical to that place. So that in divers days the beginning of *Summer* may be in those divers places; yet in all those places its beginning falleth between the 21 of *March*, and the 21 of *June*. The *Summer* shall also end in different days, and the *Autumn* begin, because the *Sun* in divers days cometh to his mean distance, (or to the points of the *Ecliptick*, which have a moderate distance from those places,) because these points are differently seated between the first of *Libra* and the first of *Capricorn*: notwithstanding this beginning falleth out between the 21 of *September* and the 21 of *December*. After the same Mode, in divers days the *Winter* shall have an end, and the *Spring* begin, because the points of the *Ecliptick* again of a moderate distance, are divers from the Vertices of those places. Now the *Sun* touching them causeth the beginning of the *Spring*, which yet happens in all between the 21 of *December* and the 21 of *March*.

3. *All the places of the Earth scituated in the* Torrid Southern Zone, *have also the end of the* Autumn, *and the beginning of the* Winter, *together at one time*, viz. *the* 21 *of* June: *but they have not the beginning and end of the* Spring, *as also the beginning of the* Autumn, *together; but divers places have it in different days; yet so, that the beginning of the* Summer *of all those places, doth fall between the* 21 *of* September, *and the* 21 *of* December: *The beginning of* Autumn, *and the end of* Summer, *between the* 21 *of* March *and the* 21 *of* June: *the beginning of the* Spring, *and the end of* Winter, *between the* 21 *of* June *and the* 21 *of* September.

The parts of this Proposition are proved after the same manner as the former: For on the 21 of *June* the Sun is in the first degree of *Cancer*, and therefore hath the greatest distance that is possible from the places of the *Austrial Torrid Zone*. Then therefore all of them shall have the beginning of *Winter*; but the beginning of *Summer*, the *Spring*, and *Autumn*, shall happen on divers days, because the *Sun* in sundry points of the *Ecliptick* becometh vertical unto divers places, and acquireth also a moderate distance from those places, in many places.

4. *Those Places of the Earth in the* Torrid Zone *have something peculiar, which lye between the* Æquator, *and the Eighth degree of* Latitude, *as well towards the North, as South: For the* Sun *by his proper Motion, or by his access or recess, make two* Summers *in them, two* Springs; *but yet but one* Autumn, *and one* Winter, *and that by a confused kind of order*, viz. *this, the* Spring, *the* Summer, *the* Spring; *the* Summer *again, then* Autumn, *and then* Winter.

The places in the *Torrid Zone* have something peculiar to them, which lye between the *Æquator* and the 8*th* degree of Latitude.

The cause of this Paradox is, because the *Sun* receding from the Vertices of those places, which lye between the *Æquator* and the 8*th* degree of the *Boreal* or *Northern Latitude* (where it maketh the beginning of the first *Summer*,) and going forwards towards the beginning of *Cancer*, it acquireth here a a moderate distance; when it returneth from the Vertices towards those Vertices, it shall not make *Autumn* after that first *Summer*, but another *Spring*, seeing that it made the first before it began the first *Summer*; where it obtaineth a mean distance between the first of *Capricorn*, and the first of *Aries*.

For

For Example, let us take a place which is four *degrees* from the *Æquator*; because therefore also the *Sun* in the tenth *degree* of *Aries* declineth, and is distant from the *Æquator* four *degrees*; therefore he being in the tenth of *Aries*, shall cause the beginning of *Summer* in that place. Moreover, the greatest *distance*, which this place can have in the *Meridies* is 27 *degrees*, 30 *minutes*, (*viz.* in the first *degree* of *Capricorn*, where his *declination* from the *Æquator* is 30 *minutes*, 23 *degrees*, to which let the *Northern distance* of the place from the *Æquator* 4 *degrees* be added) therefore seeing his meanest distance is 0 *degrees*, let 0 *degrees* be his middle distance 13 *degrees*, 45 *minutes*. Wherefore when the *Sun* shall be in the *points* of the *Ecliptick*, which are distant from the place taken, or the *Parallel* of the place, 13 *degrees*, 45 *minutes*. Then the *Sun* shall make either *Spring* or *Autumn* in that place; the *Spring*, if the *Sun* be moved from those points towards the *Vertex* of the place; but *Autumn* if the *Sun* tend from that point to a remote distance. Now the *points* of the *Ecliptick*, which are distant from the place assumed 13 *degrees*, 45 *minutes*, are found to be four, to wit, the 25th *degree* of *Libra*, the 3d *degree* of *Gemini*, the 27th of *Cancer*, and the 5th of *Pisces*, which is proved from the *declination* of these *points*. Because that therefore the *Sun* coming to the fifth *degree* of *Pisces* from the first of *Capricorn*, acquireth here a middle distance from the *Vertex* of the place assumed, and tendeth towards the place he shall then make, (*viz.* he being in the fifth *degree* of *Pisces*) the beginning of the *Spring* in that place; which *Spring* shall continue until the *Sun* doth come to the tenth of *Aries*, where he shall become *Vertical* to the place, and that shall be in the beginning of the *Summer*, when the *Sun* by his *motion* hath departed from the place, to the third of *Gemini*. Again, he shall have a moderate distance from the *Vertex* of the place in the *Meridies*, *viz.* 13 *degrees*, 45 *minutes*, and then shall that *Summer* have an end; and the *Spring* begin; not the *Autumn*, because that the *Sun* doth not tend to the greatest distance from the *Vertex*, from the third of *Gemini*; but returneth to the least, *viz.* whilst he moveth through *Cancer* and *Leo*, he cometh to the twentieth of *Virgo*: For then again he becometh *Vertical* to the place assumed, and makes the beginning of a new *Summer*, which continueth until the *Sun* cometh to the five and twentieth of *Libra*: For then again he obtaineth a middle distance, and tendeth to the point of the greatest distance (*viz.* the first of *Capricorn*) therefore then he shall make the beginning of *Autumn*: and in the first of *Capricorn* the beginning of *Winter*. So then we have shewed how such a place which lieth between the *Æquator* and the eighth *degree* of *Northern Latitude* in the *Torrid Zone* may have two *Summers*, two *Springs*, one *Autumn*, and one *Winter*, which by the same Mode may be shewn concerning the places lying between eight *degrees* of *Latitude* from the other side of the *Æquator*.

But in places scituate eight *degrees* beyond towards the *Tropicks*, this holdeth not, because those points of the first *degree* of *Cancer*, or the first of *Capricorn*, have not a middle distance from them, but lesser than a middle: For the greatest distance of the *Sun* from the place of the ninth *degree* of *Latitude* (that is possible) is 32 *degrees*, 30 *minutes*. Therefore the middle is 16 *degrees*, 45 *minutes*; and therefore if the place be in the ninth *degree* of *Northern Latitude*, the *Sun* being in the first of *Cancer*, shall have a less distance from it than the middle distance is; for that is only 14 *degrees*, 30 *minutes*, but this is 16 *degrees*: Therefore in that place the *Summer*, which beginneth with the first access of the *Sun* to the *Vertex* (in the four and twentieth of *Aries*, the fifteenth of *April*) is not finished before the *Tropick* of *Caner*, but shall be continued in the whole course of the *Sun* through *Taurus*, *Gemini*, *Cancer*, *Leo*, *Virgo*, and *Libra*, in the four and twentieth *degree* of which, *viz.* about the fifteenth of *October*, it endeth.

But here seem to arise two new difficulties.

1. That these *Months* must not be ascribed to *Summer*, because the *Sun* doth not recede by a direct course from the *Vertex*, but first he acceedeth to another distance again and again, whilst he receedeth from the *Vertex* of the place to the *Tropick* of *Cancer*; but the *Summer* must be defined only by the time of his recess or departing back. But I answer to this, that the *Summer* ought to be defined by a departure, but not by a departure to every distance, but by a recess to a moderate or middle distance. Neither by this is a mixt access excluded from a recess, so that the recess be not greater than a middle distance.

2. For the places lying between the *Æquator* and the eighth *degree* of *Latitude*, seeing that before the first *degree* of *Cancer* (or if the *Latitude* be Southernly, before the first of *Capricorn*) the *Sun* acquireth a moderate distance from those places where we said the end of the first *Summer* is, it appeareth not that we should place the entrance of the *Spring*, because the *Sun* is not directly moved from that point again towards the place, but first it more departs, *viz.* from the first of *Cancer*, and from thence it returneth to the place. But we must know that the departure is so small, that we ought little to regard the same, because it scarce maketh one or another *degree*, and that time of a greater recess cannot be ascribed to another season, except we will feign some new fifth and sixth Season.

Also it may otherwise seem concerning these places to some one, *viz.* that an *intermedial Spring* should not be placed between two *Summers*, but one continued *Summer*; and that time of an *intermedial Spring* should be attributed to this *Summer*, making no account of it, that the *Sun* is removed to a middle distance from the place, seeing that he remaineth so near the place, and so little receedeth beyond his middle distance, that he can hardly diminish the *heat* of the *Air*, but by reason of his continuity rather augment at that time. I shall contest with none about this; but I think it more advantageous to insist on the explained Method; but here is overmuch concerning this Subject.

Proposition IV.

A place being given in the Torrid Zone, to find out the daies of the year, in which the Summer, Autumn, Spring, and the Winter, begin and end in that place.

The finding out of the days of the year in which the Seasons begin and end in places of the *Torrid Zone*.

1. If the place be scituated in the *Æquator*, we have shewed in the preceeding *Theorem* of the *Proposition*, in what *degrees* these *Seasons* of the year begin and end, which are there double.

2. If the place be without the *Æquator*, and removed from it beyond the eighth *degree* of *Latitude* or *Distance*, let it be brought to the *Meridian*, and let the imminent *point* of the *Meridian* be noted with *Chalk*; then let the *Globe* be turned round until some point of the *Ecliptick*, seated between the first *degree* of *Aries* and the first of *Cancer*, come to the same point of the *Meridian* (if the place given be in the Northern *Torrid Zone*; but if in the Southern *Torrid Zone*, then the point ought to pass between the first *degree* of *Libra* and the first of *Capricorn*) this shall be the *point*, which when the *Sun* entereth, he makes the beginning of the *Summer* in the proposed place. Then let the intercepted *degrees* between the noted point of the *Meridian*, and the *Tropick* of *Capricorn* (of *Cancer* if the place given be South) be cut into two equal parts, and let the middle point in the *Meridian* be noted, and let the *Globe* be moved until the point of the *Ecliptick*, seated between the first *degree* of *Capricorn* and the first of *Aries* (between the first *degree* of *Cancer* and the first of *Libra*, if the place be Southern) pass through the last noted point of the *Meridian*. Again, let it be moved until another *point* between the first *degree* of *Capricorn* and the first of *Libra* (the first of *Cancer*, and the first of *Aries*, if the place be Southern) pass through the same *point* of the *Meridian*: the first *point* will note the day for the entrance of the *Spring*, the latter for the beginning of *Autumn*. But the beginning of *Winter* is in the first of *Capricorn* if the place given be Northern, but in the first of *Cancer* if Southernly.

They may also be resolved by *Maps*, but most accurately from the *Tables* of *Declination*, *viz.* with the *Latitude* of the place enter the *Table* of the *Solary Declination*, in which seek that *Latitude*, to which you see the four days of the year apposed: from those take that which is between the 21 of *March* and the 21 of *June*, if the place given, or the *Latitude* of it given be *Northern*; but if it be *Southern*, take that day which happeneth between the 21 of *September* and the 21 of *December*, this day shall be the beginning of the *Summer*.

Then take away half of the given *Latitude* of the *plain* from 11 *degrees*, 45 *minutes*, and seek the remaining Number in the *Table* of the *Declination*, you shall see again opposite four days of the year, in two of which the *Sun* shall obtain a middle distance from the place given; if therefore the place given be *North*, take two of those four days, whereof one happeneth between the 21 of *December* and the 21 of *March*, (this shall be the entrance of the *Spring*) the other between the 21 of *September* and the 21 of *December*, this shall be the entrance of *Autumn*: But if the place given be *South*, from those four days you must take the day between the 21 of *June* and the 21 of *September* for the entrance of the *Spring*; and for the beginning of *Autumn* that which happeneth between the 21 of *March* and the 21 of *June*. The beginning of *Winter* shall be the 21 of *June*, if the place be *South*; but if *North*, the 21 of *December*.

3. If the place given be between the *Æquator* and the eighth *degree* of *Latitude*, it shall have two *Summers* and two *Spring seasons*; besides *Autumn* and *Winter*, except peradventure we will cast away that second *Spring* which is intermedial between the two *Summers*; as we said in the end of the preceeding *Proposition*, and attribute a continual *Summer* to that time; which if you do, we must act no otherwise with the given place than in the former *Mode*. If we will attribute two *Summers* and two *Springs* to it, as the *definitions* of *Summer* and *Spring* accurately observed do require, we shall first act by the first *Mode*, as in the former *Theorems*, *viz.* we shall find the entrance of *Summer* and *Winter*, and except the four days of moderate distance found in the *Table* of those four, those two which we advised to take in the former *Mode*, for the entrance of the *Spring* and *Autumn*, here again we shall take on the same conditions; but of the other two days, that only which is proximate to the day of the *Summer* shall be taken.

For this will shew the end of the *Summer*, and the beginning of the *second Spring*; but for the day of the *second Summer*, another day of the three remaining shall be taken in that *Area*, from which the beginning of the *first Summer* was taken, *viz.* that which is distant by an equal number of days from the 21 of *June*, and (the 21 of *Capricorn* if the place be South) the first day of the *Summer*: So the days shall be found in which the *Summer*, the *Spring*, *Autumn*, and the *Winter* do begin and end in the places of the *Torrid Zone*.

Proposition V.

In the places in the temperate and frigid Zones, the four seasons of the year are almost equal, or consist of an equal number of days: But in the places of the Torrid Zone they are unequal: Neither are only the times of the divers seasons unequal, but also the time of the season in the divers places of the Zones is unequal.

The seasons of the year in the places in the Temperate and Frigid Zone are equal.

1. For the places of the *temperate* and *frigid Zones*, what I have said is easily demonstrated: For seeing that the Sun in every time of those four quarters of the Year runs through three *Signs*, therefore the times of the *Spring*, *Summer*, *Autumn*, and the *Winter* shall be equal, or of equal days, except some days, *viz.* five in which the *Summer*, and four in which the *Spring* of the *Northern places* exceed the *Autumn* and the *Winter*: but in the *Southern places* it is otherwise; for *Autumn* and *Winter* exceed the *Spring* and *Summer*, which as we have shewed before, proceedeth from the excentricity of the *Sun*.

2. In places lying under the *Æquator*, there are two *Summers* (as also other *Seasons*) but both short, as also both the *Springs*, *viz.* each *Summer* and each *Spring* hath only 32 days, which is 64 days; but the *Autumns* and *Winters* are longer, *viz.* 55 days, which is 110 days.

3. In the places of the *Torrid Zone*, by how much the less they are remote from the *Æquator*, by so much the more they have the longer *Summer*, the less *Winter*, and more or less moderate *Autumn* and *Spring*: for in places not remote above 10 *degrees* from the *Æquator* the *Summer* continueth six Months. Now the greatness of the *Summer*, *Autumn*, *Winter*, and *Spring*, is known by the preceeding *Proposition*.

What hath hitherto been said, is only to be understood concerning the *Celestial Seasons*, that is, those which depend on a *Celestial Cause*, or from the access or recess of the *Sun*: for from this alone cometh not *light*, *heat*, and *cold*, as we have said in some places before; therefore we shall consider the other causes in the following *Propositions*.

Proposition VI.

Of the Motion of the Sun in places of the Torrid, Frigid, and Temperate Zones.

In places of the Torrid Zone, as the Sun by day is very near the Vertex, so on the contrary by night he is beneath the Horizon, and very much removed from the Vertex of those places, so that those places by night lye almost in the middle shadow of the Earth, neither can the Air possibly any wayes be warmed by the Suns rayes by frequent reflection.

In places of the Frigid Zone, as the Sun by day is not very nigh the Vertex, so by night he doth not profoundly remain beneath the Horizon; but for the greatest part of the night doth so turn round beneath the Horizon, that many rayes from him by reflection do penetrate into the Air.

In places of the Temperate Zone, as the Sun by day cometh to the Vertex of those places by a moderate Vicinity, so by night by an easie distance he is depressed beneath the Horizon, so that some rayes at least are in the Air.

To shew this by the *Globe*, first let the *Pole* be elevated for some place scituated in the *Torrid Zone*, or rather let the *Pole* be placed in the *Horizon* it self, that the places of the *Æquator* may be in the *Vertex* of the *Horizon*, or that the *wooden Horizon* may become the *Horizon* of the places of the *Æquator*; then consider the depression of the *Parallels*, which the *Sun* describeth by

by his circumrotation, beneath the *Horizon*, and the truth of the member of this *Proposition* will appear.

Then let the *Pole* be elevated for the places of the *Frigid Zone*, or let the *Poles* be placed in the *Vertex* of the *Horizon*, and the *Parallels* of the *Sun* beneath the *Horizon* from the first *degree* of *Libra* to the first of *Aries*, being considered, it will again be manifest that they are very little depressed below the *Horizon*. And so we have shewed the second member or part of this *Proposition*.

Lastly, let the *Pole* be elevated for the *Latitude* of any place scituated in the *Temperate Zone*, and the *depression* of the *Parallels* beneath the *Horizon* again being considered, the third part of this *Proposition* will be proved.

Proposition VII.

A place being given in the Globe, and the day of the year, to find the Longitude of the Crepusculum or Twilight in the place given at the day given.

That *time* is termed the *Longitude* of the *Twilight*, in which either before the rising of the Sun, or after his setting, some *light* is discovered in the *Air*.

For the finding out of the quantity of this *time*, we must suppose that which is observed by *Astronomers* (as we have said in the nineteenth Chapter) that the *morning twilight* beginneth for the most part, if the *Air* be serene, the *Sun* drawing nigh to the eighteenth *degree* of *depression* beneath the *Horizon*, and the *evening* endeth when the *Sun* hath come to that *degree* of *depression*.

For the finding the Longitude of the Twilight by the Globe, of any place and day of the year.

Let therefore the *Pole* be elevated for the *Latitude* of the place given, and let the place of the *Sun* in the *Ecliptick*, being found from the day of the *year*, be sought in the *Ecliptick* of the *Globe*, and let his opposite *point* be noted; then let the *Quadrant* be applied to the *Vertex*, and the *point* noted be found to the *Horizon*; the *Index* to the twelfth hour of the *Cycle*; then let the *Globe* be turned round until the noted *point* be elevated 18 *degrees* above the *Horizon*, which is known by the help of the *Quadrant*; for so shall the place of the *Sun* be depressed so many *degrees* beneath the *Horizon*; and the *Index* in the *Cycle* shall shew how many *hours*, or parts of an *hour*, the serenity of the *Air* being laid down, the *twilight* continueth that day in the place given. It is convenient by three examples to learn the use of this *Problem*, choosing a place for one of the *Torrid Zone*, another of the *Temperate*, and a third of the *Frigid Zone*.

Proposition VIII.

In places of the Torrid Zone the twilights are small, very long in those of the Frigid, and moderate in those of the Temperate Zone.

Of the difference of the Twilights in the several Zones.

For in places of the *Æquator*, and those near, the *Crepusculum*, according to the *Hypothesis* laid down in the former *Proposition*, is of about one hour, which yet experience testifieth is only half an hour, or little more, because the more thick and gross *Air* is not so high there, as is required to make the *twilight* to the 18 *degree* of *depression*; both also because the *Hypothesis* of the 18 *degree* is to be taken concerning very small *light*, with which the *twilight* beginneth, such as yet is not accounted by the Vulgar for a *twilight*.

In the *Frigid Zone* the *twilights* continue for many days when the *Sun* remaineth beneath their *Horizon*.

In the *Temperate Zone* it continueth 3, 4, 5 and 6 hours, and in some places all night; and in the days of the *Summer*, according as the places are more or less nigh the *Frigid Zone*. All these are proved by the *Mode* proposed in the precedent *Proposition*.

Pro-

Proposition IX.

A place being given in the Temperate or Frigid Zone, and another in the Torrid Zone, and moreover the day of the year being given, to find out the hour of the place of the Torrid Zone, in which hour the Sun may have the Altitude above the Horizon of that place (and so strike that place with his rayes equally elevated) as great as it hath in the place of the Temperate Zone in the Meridies it self.

Let the *Pole* be elevated for the *Latitude* of the place of the *Temperate* or *Frigid Zone*, and let the place of the *Sun* found from the day given be brought to the *Meridian*, and the *Altitude* of it reckoned, for this is the *Altitude* of the *rayes* heating that place, and illustrating it in the *Meridies*.

Then let the *Pole* be elevated for the *Latitude* of the place given in the *Torrid Zone*; let the *Quadrant* be applied to the *Vertex*, and let the *degree* of *Altitude* before found out be noted in it; let the place of the *Sun* be brought to the *Meridian*, the *Index* to the twelfth hour of the *Cycle*, then let both the *Globe* and the *Quadrant* be moved till the place of the *Sun* agree with the noted *degree* of the *Quadrant*: for so the *Sun* shall have the same *Altitude* above the *Horizon* of this place, as it is in the *Meridies* of the former. The *Index* will shew the hour demanded in the *Cycle*; therefore this hour, and the rayes of the *Sun* illustrating and beating of the place and *Air* of the *Torrid Zone*, are as equally elevated over the *Horizon* of it, as the *rayes* in the *Meridies* of the former place; it thence followeth, that the same *heat* will be in the *Torrid Zone* at the hour found out, as in the place of the *Temperate Zone* in the *Meridies*, except other causes intercede, *viz.* first, that the *Sun* in the foregoing days hath introduced some one or other calid Constitution to the place, and the *Air* of the *Torrid Zone*; and not such, and so great in the places of the *Temperate* or *Frigid Zone*. Then secondly, that the *Sun* straitly ascending towards the *Meridian* above the *Horizon* of the places of the *Torrid Zone*, sendeth forth all his *rayes* to the place, as in one *plain*, and to one *plaga*, and therefore causeth greater *heat* than in the *Temperate* or *Frigid Zone*, where the *Sun* moveth obliquely from the *Horizon* to the *Meridian*, and sends forth his *rayes* from one and another *plaga*: therefore the *rayes* are not contracted into a place so narrow, nor do they continually *heat*.

Some hinderances.

For *example*, let us seek in what hour of the day in places being under the very *Æquator*, on the day of the *Æquinoctials*, the *Sun* will have that *Altitude* as he hath at *Amstelodame* on the *Meridies* of the same day.

Proposition X.

How the causes of light, heat, and of the seasons, which we have reckoned up in the first Proposition of this Chapter, have themselves in the Torrid Zone, and how to shew them.

Of the seasons, light, and heat in the Torrid Zone, and how they are shewed.

First, every day of the year ascendeth directly above the *Horizon* of those places (especially of the *Æquator*) towards the *Meridian* and the *Vertex* of them; and therefore about the ninth hour of Forenoon, he beginneth to ejaculate to those places *rayes* about 40 *degrees* declining from the perpendicular *rayes*, which rectitude of the *rayes*, or perpendicular of the *rayes*, augmenteth towards the *Meridies*, and again decreasing, continueth to the fourth hour after the *Meridies* or Noonstead, where the *Sun* departing towards the Occidental *Horizon*, beginneth to send forth his *rayes* more obliquely to those places; therefore the greatest *heat* in those places ought to be from about the ninth hour before Noon, even to the third or fourth after Noon, if that this cause be only regarded: but yet because the *Sun* now departs from the *Vertex* of those places, and sometimes approacheth nearer, therefore the

Winter of every one of those places shall be, when the *Sun* goeth from the *points* of the *Ecliptick* much remote from those places; that is, from the first *degree* of *Cancer* or *Capricorn*, towards the *points* having a middle distance from the place assumed; the *Spring* when he goeth from a *point* of moderate distance towards the very *Vertex* of the *Pole*, or to the *point* of the *Ecliptick*, which is *Vertical* to the place, or to the *Parallel* of the place: the *Summer*, where the *Sun* goeth from this other point of middle distance to a point of greatest distance, that is the first *degree* of *Capricorn* or *Cancer*.

2. In the places of the *Æquator* it self, the *Sun* no day of the *year* remaineth above the *Horizon* more or less hours than twelve, and so many beneath the *Horizon*. In other places of the *Torrid Zone* one hour, or an hour and an half at the most (*viz.* in the extream places of this *Zone* about the *Tropicks* of *Cancer* and *Capricorn*) when the day is at the longest, the *Sun* remaineth above the *Horizon* twelve hours, and in the shortest day about eleven hours, and in the intermedial days that time of the stay of the *Sun* above and beneath the *Horizon* doth not much differ from twelve hours. And therefore this is the cause that the *nights* are not without *cold*, and the *heat* of the day continueth not long about the *eveningtide*.

3. In the *night time* the *Sun* is profoundly depressed beneath the *Horizon*, for that he illustrateth the *Air* with none of his *rayes*, nay not *reflex*. This is the cause that most dark *nights* are there, and the *cold* of the *night* is augmented, the *Air* is condensed, and contracteth it self, and being cold, it descends towards the *earth* by its own ponderosity. Moreover, in a very short time (about the space of half an hour) before the rising of the *Sun*, and after his setting, those places have the *light* and *heat* of the *Twilight*.

4 The *Moon* almost after the same manner as the *Sun* ascends directly from the *Horizon* towards the *Meridian* of those places, yet a little more obliquely, because it departeth from the *Ecliptick*, and therefore towards the *Torrid Zone* about five *degrees*; and it remaineth after the same manner as the *Sun* a little above twelve hours above the *Horizon*; and is depressed beneath it almost so many hours, and that profoundly, as we have spoken of the *Sun*. Therefore with her direct *rayes*, or those near to the perpendicular, she will augment the warmness of the *night*, especially when she is *Vertical* to any place, and diminish it by her recess: but by reason of her short stay above the *Horizon*, the effect of it is little discerned in any place, except when it is *Vertical* to it.

5. All the *Stars* arise, and set in places nigh the *Æquator* (but those *Stars* which are near the *Pole* in places more remote from the *Æquator* do not arise, and those are but very few) and therefore they can cause little *heat* and *light*; and that also insensible in the *Air*.

6. In many places of the *Torrid Zone*, as in *India* and its *Isles*, in the Tongue of *Africa*, and in *Mexico* the *earth* is *Sulphureous*, which sendeth forth more calid *vapours*, whence it communicateth a certain *heat* to the *Air*, and a peculiar property. In some places it is *sandy*, as in the North part of *Africa*, lying in the *Torrid Zone*, in part of *Lybia*, and the *Land* of the *Negroes*, in many places of *Arabia*, in *Peru*, and in the places between *Peru* and *Brazilia*: whence in these places a very great *heat* is raised by the *Sun*; because the *particles* of the *sand* do very long retain the *heat* received from the *Sun*, and soon communicate the same to the vicine *Air*.

In other places the Rivers are many, and in those Sandy ones few; there are many in *Abyssine*, in *Guiney*, *Congo*, *India*, and in *Brazilia*; hence humid *vapours* are raised, which do very much blunt the force of the *Suns rayes*, and render his *heat* more tolerable.

7. The

7. The most places of the *Torrid Zone* have the *Sea* adjacent; as *India* and its *Isles*, the Tongue of *Africa*, *Guiney*, *Brazilia*, *Peru*, *Mexico*; some places of the *Torrid Zone* are *Mediterranean*, as the more inward *Africa*, the *Regions* between *Peru* and *Brazilia*; whence it cometh to pass, that in those places the *heat* and *drought* is greater: and in some, or most of them, the *Air* is more moist, and less fervent then can be caused by the *Sun*, except other causes happen.

8. Most of the *Regions* of the *Torrid Zone*, seeing that they are almost encompassed by the *Sea*, have in the middle places more or lesser ridges of exceeding high *Mountains*, as *India* and its *Isles*, the Tongue of *Africa* and *Peru*. These rows of *Mountains* do very much vary the *light*, *heat*, and *rayes* of those places: somewhere they hinder the *Oriental rayes* of the *Sun*, otherwhere the *Occidental*. Moreover, the humid *vapours* condensed in the *Air* are moved to the *Vertices* of these *Mountains*, as we have shewed in the twentieth Chapter, whence *rains* and *clouds* proceed, by which the *heat* and *light* of the *Sun* is very much obstructed, and the *Celestial cause* of the *Seasons* is disturbed. There are few of the places of the *Torrid Zone* which want those ridges, as the inward *Africa*, *Mexico*, and the like.

9. The effects of the *Winds* in the *Torrid Zone* are various and notable; for a general *wind* blowing from the side *Plagas* of the *East*, or from the *East* continually towards the *West*, refrigerateth the *Maritim places* which regard the *East*, as *Brazilia*, the *Oriental Coast* of *Africa*; but not so to those towards the *West*; as *Guiney*, *Congo*, *Angola*, and the *Coasts* of *Peru*: Some *winds* are appropriated, as the South in *Peru*; which *winds* dispel *vapours* towards the *Plaga* in which they blow. Some are fixed *winds*, of which we have largely treated in the one and twentieth Chapter. Now these *winds* do very much disturb the *Celestial cause* of the *Seasons*, for they are almost as equally constant, and observe order, as the *motions* of the *Heaven* it self. They bring down the *Air*, compel the *vapours* towards the tops of the *Mountains*, and by other Modes alter the *Seasons*. Ten *Anniversary rains* are in many places of the *Torrid Zone*, and take away the *Celestial cause*, seeing that they are as equally constant as the *motion* of the *Sun* it self. For those err, who suppose that this our *Sublunary Orb* observeth all with inconstancy, and without order, and that the *Celestial* only have a constant *motion*.

Seeing that the causes hitherto spoken of are so various, to be able to cause the *heat*, and the *properties* of the *Seasons*; and in one place some are from other causes; in another, others are of force, or concur in divers *Seasons* of the year, or mutually impede one another; hence we discover, why the cause and condition of the *Seasons* of the *Torrid Zone* is so various.

Proposition XI.

How the Spring, Summer, Autumn, and Winter (Terrestrial) do behave themselves, and in what Months of the year they commence in the divers places of the Torrid Zone.

Of the beginning of the Seasons in places in the Torrid Zone.

We have said before, and especially in the second *Proposition*, that the *Seasons* in many places of the *Torrid Zone* are contrary to the *motion* of the *Sun*, *viz.* that it is *Summer* there when the *Sun* is most distant, and *Winter* when he is neareſt, yea *vertical* to the *Vertex*. Therefore we have distinguished the *Seasons* into *Celestial* and *Terrestrial*. We have shewed heretofore, and that in the third and fourth *Proposition*, how any place being given in that *Torrid Zone*, the *Months* of the year are to be found, in which the place ought to have *Summer*, *Spring*, *Autumn*, and *Winter*, if we have regard to the access and recess of the *Sun*; that is, we have taught to design the times of the *Celestial Seasons*. But seeing that in many places of this *Zone* the forementioned *Seasons* do not happen in those *Months*, but in others, and that in divers places in a different time; therefore the times of the *Terrestrial*

Terrestrial seasons must be taken, not from the Heaven, or a certain method, but from the experience made in those places, and as much as possible, the cause of every one of them, why they repugn the *Celestial cause*, must be explicated; *viz.* from those 10 causes, which we have laid down in the first *Proposition*: this therefore ought first to be known, that the *Winter* in the *Torrid Zone* doth rage with cold and frost, but rather with raines, and is to be defined by a lesser heat then that in the time of the *Summer*. Farther in many places of the *Torrid Zone*, they reckon not four but two seasons of the year *viz.* *Summer* and *Winter*, and these are not distinguished by heat and cold, but chiefly by siccity and humidity; for in the *Winter* they have often greater heat than in their *Summer*, with a shortness of respiration, because the rain and the *Clouds* press the *Calid Air* downwards. But the *Spring* and *Autumn* are not to be found by so manifest signs, or differences.

We shall begin our Narration from that part of Africa, *which lyeth under the* Torrid Zone, *and proceeding towards the East, with* Brazilia, *we shall finish the whole* Torrid Zone, *seated in the West measured by us.*

The *Regions* of the *Occidental* shore of *Africa* from the *Tropick* of *Cancer* to *Cape verd*, (that is distant 14 degrees from the *Æquator* towards the *North*) are all abounding both with Corn, and variety of Fruit; there are also heards of Cattell, and flocks of Sheep in great abundance: The Inhabitants are of a great strength, the heat of the Air a little exceedeth Mediocrity, so that the Inhabitants go naked, except the *Noble*, and those that are rich, whose clothing is a *Linnen Cloth*. The cause of this fertility and temperate Air contrary to the custom of the *Torrid Zone*, is, First, many Rivers, of which the chief are *Senega*, and *Gambea*; before they discharge themselves into the neighbouring *Sea*, they water those *Regions*, and render the Air more humid and frigid. Secondly, the vicinity of the *Sea*, which affordeth humid vapours, and somewhat cold Winds. How the *Seasons* of the year have themselves in this place, and what months of the year *Summer* and *Winter* happen, and are vigorous, I have not found noted by *Writers*, which is to be imputed to their negligence, and sloth. Yet in one *Itinerary*, I have read, that in one of the *Islands* which lye not far from the *Promontary* of *Cape verd* (by name *Salinæ* or the *Hesperides*) in one of them, I say, called St. *Vincents* (the *Latitude* is 16 degrees) the *watery months*, that is *Winter*, are *August*, *September*, *November*, *December*, *January*, even to *February*. This time almost agreeth with the *Celestial cause*, for in the months of *May*, *June* and *July*; because the *Sun* is very near, or else vertical to that place; therefore it maketh the *Celestial Summer*, and here the *Terrestrial* agreeth with it, for then they have a greater heat, and dry Air without Rain. In the months of *February*, *March* and *April*, is their *Spring*, be-because the *Sun* is moved from a moderate distance to a lesser, therefore they are then without rains, and have a moderate heat. The months of *August*, *September* and *October*, are to be ascribed to *Autumn*, by reason of the rains, although it ought to begin latter, because the *Sun* in *August*, hath not yet returned from his least distance to his mean. Lastly, the months *November*, *December* and *January*, are *Winter*, because the *Sun* hath then the greatest distance from their *Vertex*, and then they find more and longer continuing rains, with some cold; but this is not to be observed every year, though most years: But how the seasons are in the *Continent* of *Africa* is not related, except that concerning the shore of *Sierra Leon*, it is contrary, as we shall now speak.

2. Now succed the *Regions* of the *Coast* of *Africa* which look towards the *South*, and extend themselves from the *Promontory* of *Cape Verd*, to the curvature or bending part of *Africa*, that is from the *West* to *East*. These *Regions* are termed by one name *Guiny*, although others attribute this term only to one part: Now they lie in the *Torrid Northern Zone* 3. 4. and more degrees from the *Æquator*. In these *Regions* there is a continual heat of the Air without any intervening *Cold*, yet they attribute some months to the *Summer*, and some to the *Winter*. I think the same must be understood of the former *Western Coast*; for in the *Regions* of the Shore called *Sierra Leon*, which is removed above 9 degrees from the *Æquator* towards the *North*, as also in many Tracts of *Guiny*, they ascribe the months *March*, *April*, *May*, *June* and *July* to *Winter*, especially the three first, by reason that on these months there fall frequent and almost continual rains, hot or warm, great Thunders and Lightnings, and so great Storms rage without violent Winds, that none can easily conceive them, who hath not had experience of them. How they rage I have already spoken, also in these months the Fields lie Barren, but when these Stormy months are expired, then they dig up the dry Earth (which hath sucked up the great Rains in the said wet months) and mix stamped and bruised *Coals* (instead of manuring) and so for the space of 10 days suffer the Earth to putrify, and then they sow their Seed. There is here so great an heat of the Air, joyned with humidity by reason of the propinquity of the Sea, that the Fish which are taken, stink, if kept undressed half a day. Therefore in these places, the *Winter* shall be in *April*, *May* and *June*, when the Storms and Rains rage. The *Spring* in *July*, *August*, and *September*; the *Summer* in *October*, *November*, and *December*; and the *Autumn* in *January*, *February*, and *March*, where the Rains and Storms do begin.

See Chap. 21.

Now all these times of the Seasons in those places are contrary to the *Celestial* cause, or motion of the *Sun*, for in the months of *May*, *June* and *July*, great heat ought to be there, because then the *Sun* is then vertical, or near the *Vertex*, which the heat or warmness of the Rain also testifyeth: contrariwise in the months of *October*, *November*, and *December*, it should be *Winter*, because that the *Sun* being about the beginning and *Tropick* of *Capricorn*, is most remote from the *Vertex* of those places. Here therefore the time of the *Terrestrial seasons* do much differ from the *Celestial seasons*. The cause therefore of these Rains, Storms, and Thunders, at that time in those places, when the *Sun* is so near, is not easy to be explicated. But it seems to be, that the *Sun* in the day time forceth up many *Vapours* from the *Sea*, and *Sulphureous* exhalations from the Land of *Guiny*, which vapours being condensed by the cool of the Night, cause the Rains; especially when no continual wind bloweth in these places, which may discuss the *Vapours*. But for the most part here is a calm, some Storms excepted. And these months of Rain which they attribute to *Winter* are not cold but hot, because no wind bloweth, and the *Sun* is *Vertical*; yea the heat is *Suffocative*, which is the cause, of shortness of respiration to the Inhabitants.

And although the Fields be Barren of Grain in these *Watery months*, yet the Trees and Bushes are in their *Verdure* all the year, and bear Fruit.

The Day is here equal to the Night almost throughout the whole year, the *Sun* in the *East*, rising at six in the Morning, and sets in the *West* at six in the Evening: but the *Easterly* or *Westerly Sun* is seldom conspicuous there, because for the most part he ariseth involved with *Clouds* for half an hour, and half an hour before he setteth, he is again inveloped with *Clouds*.

That

That also deserveth consideration, why in the Months of *July* and *August* the same Rains and Storms rage not there, seeing that the *Sun* is then as equally nigh to those places as in the months of *May* and *June*. Moreover why in the *Islands* of the *Hesperides*, which are not so far removed from *Sierra*, *Leon*, and *Guiny*, the *VWinter* falleth out in contrary months.

3. How the times of the seasons are in the *Interiour*, or *Mediterranean* part of *Africa*, which is included in the *Arch* of the *Tropick* of *Cancer*, the Regions of the *Occidental* Shore, and *Guiny*, or the Land of the *Negros*, concerning which I have found nothing as yet noted, but that all those places are almost *Steril*, except those adjacent to the River *Niger*: for that River every year in the months of *June*, *July* and *August*, overfloweth, and communicateth much fertility to those Lands; and moreover formeth many Lakes. The other places confining on *Lybia* are infested with violent heat, being for the most part Sandy. The *Watery Months* do not seem to bear sway here after the same mode, as in *Guiny*.

4. Now follow the *Regions* of the *Coast* of the *Tongue* of *Africa*, which is stretched from the *North* towards the *South*, and regardeth the *West*. The *Regions* are *Manicongo*, *Angola*, and the like, from the second degree of *Nothern Latitude*, even to the *Tropick*, *South* of *Capricorn*, beyond the *Æquator*. Now the Kingdom of *Congo* beginneth from the second degree of *South Latitude*. The *Winter* in these places is like the constitution of the *Vernal season* in the Territory of *Rome* in *Italy*; the heat temperate, so that they alter their *Garments* in no time of the year. Neither are the tops of the adjacent *Mountains* infested with cold. Here almost with our *Spring*, the *Watery Winter* beginneth and continueth *April*, *May*, *June*, *July*, *August* and good part of *September*. At that time the *Summer* beginneth, which possesseth the other Months, even to the 10 of *March*; even in this *Summer* they have no rains, or at least very little, and seldom have a continual serenity. But in the *Watery Months* the *Sun* is scarce to be seen on any day, perpetual Clouds and rain so obstructing the Air, also frequent *Travados* or *Storms*. It doth not rain whole days, but for the most part two hours before, and two hours after noon, great drops fall, which are soon received by the droughty Earth. Therefore although the Inhabitants divide the year only into two parts, it may be distributed into four; (our common people also do usually divide the year into *Summer* and *Winter* because the *Spring* is comprised in the *Summer*, and the *Autumn* in the *Winter*.)

These times of the *Terrestrial seasons* in these places almost agree with the *Celestial course*, for from the 25 of *March*, *April*, *May*, *June*, *July*, *August*, to the 25 of *September*, the *Sun* departs from those places to the *Tropick* of *Cancer*, where he is most remote from them, the 21 of *June*, and the rest of the time he approacheth again to them: so that on the 30 of *September* he becometh vertical to them, and goeth to a moderate distance towards the *Tropick* of *Capricorn*, and returneth from thence in the months of *October*, *November*, *December*, *January*, and *February*; so that in *March* he again becometh vertical, therefore in those Months they have a *Summer* by reason of the vicinity of the *Sun*, whose effects are not here hindred by a *Terestrial* cause. And then again in the Months from the 10*th* of *March*, to the 10*th* of *September*, they have *Winter*; because then the *Sun* is more removed from them: but the times of the *Spring*, *Autumn*, *Summer*, and *Winter* which we have assigned, do not well agree with the *Celestial* course, and I doubt whether the *Summer* and *VWinter* may be distinguished into the *Spring* and *Autumn* in those places.

Therefore here a more easy cause may be rendred, why in those Months from the 10 of *March*, to the 10 of *September* they should have a quotidian Rain, and some kind of *VWinter*, viz. because the *Sun* departs fron their vertex towards the place of the greatest distance: but this cause is not only sufficient, because it is

not able of its self to produce such an effect, but another must be added: The tops of the Mountains, which lie not far from these Maritime places towards the east, are discerned in those watery Months to be continually covered with *Snow*, and this is caused by reason of the fixed wind which in these Months there bloweth; therefore the *Sun* elevateth the Vapours very much from the *Sea*. And this fixed Wind forceth them towards the tops of the Mountains where they are condensed, and then turn to Rain; and from the Rain which falleth from the Mountains springeth the inundation of the *Nile*, and other Rivers of *Africa*.

The Wind is the *North-west* Wind.

Moreover we must know that in these watery Months the Rivers of *Congo* overflow the adjacent Fields, which causeth great Fertility in them, and also disgorgeth great quantities of water into the *Sea*.

5. In the *Maritime Region Lowango*, adjacent to *Congo*, there are also observed to be Rainy Months, and other Months of *Summer* that are serene; but that which is to be admired is that they are not the same with those, in which we said the Rain doth wax vigorous in the Months of *January*, *February*, *March*, and *April*, when yet it is Summer and a serene Aire in *January* and *February* in *Congo*. Here therefore the Terrestrial Season is repugnant to the Celestial, because that in *January* and *February* the *Sun* is not most remote from those places, and therefore they should not have Rain, but rather *Siccity*. Without doubt the cause is either from another scituation of the Mountains, another fixed Wind, or the like.

See the Description of St. *Thomas*.

6. The *Island* of St. *Thomas*, and *Anobon* are very abundant in *Sugar*, *Grain*, *Fruits*, and Meats, and great plenty of *Oranges*, &c.

7. How the Seasons are in the other Regions of the *Occidental Coasts* of *Africa* from *Lowango* to the *Tropick* of *Capricorn*, I have not yet found to be observed by any one.

8. Therefore that shore being left, and the *Promontory* of *Good-hope* being sayled about, we return to the *Tropick* of *Capricorn*, where the *Oriental Coast* of the Promontory or *Tongue* of *Africa* is discovered, in which lyeth *Zofala*, *Mozambique*, *Quiloa*, even to the *Æquator*, which are illustrated by the *Oriental Sun*. In these places the Winter is in the Months of *September*, *November*, *December* and *January*; in the rest *Siccity* and *Summer*, which time is contrary to that, in which in *Congo* we have said that they have the Rain in *Winter*, and yet these Regions lye from the *Æquator*, but the ridge of Mountains which doubly divide this *Prominent Tongue* of *Africa* into the Eastern and Western Land, questionless are the cause of this diversity. The Land of these Regions are only of a moderate Fertility, in many places Sandy, Barren, and scorched with the chalure of the Sun; but the Rivers, the adjacent Sea, and general Easterly Wind much allay the heat.

9. The other Regions of the *Oriental Coasts* of *Africa* lying from the *Æquator* towards the North, at the mouth of the *Arabian Gulph*, and hence to the Shore of the said *Gulph*, even to the *Tropick* of *Cancer*; these Regions I say what seasons they have, and in what times of the year, I have not yet found observed by any, but that some write, that this tract is barren, sandy, oppressed with such a violent heat, and destitute of Rivers.

10. As to the seasons in the *Mediteranean* part of *Africa*, which is the Region of the *Abyssines*, which is cut almost in the middle by the *Æquator*, so that it hath some Provinces in the Southern *Torrid Zone*, and very many in the Northern *Torrid Zone*.

11. Now leaving *Africa*, we enter the Regions of *Asia* lying under the *Torrid Zone*, where first we meet with the Regions of *Arabia* adjacent to the *Red Sea*, from *Mecca* to *Aden* (12 degrees from the *Æquator* towards the North) which regard the West; on the East they have the *Arabian* Mountains. These Regions are exceedingly infested with heat in *March* and *April*, and more in the following Months, whilst the Sun approacheth to their *Vertex* and about it, it remaineth *May*, *June*, *July*, and *August*, the chalure is so great, that the Inhabitants, especially the better sort, cause water to be poured on their Bodies all the day long, or else lie in Vessels of Water to refresh them. I suppose the cause

The Merchants at *Aden* negotiate their affairs in the Night season by reason of heat in the day.

to

to be the defect of watery Vapours, because on the *Oriental* part the Region is Rocky, and hath but few Rivers; now the *Oriental* wind, which is general, although it be not there perceived, repelleth the Vapours rising from the *Red Sea*: Likewise the abundance of Sand which retaineth the heat received in the night, and communicateth it to the Air. Therefore this time of the *Summer* and *Winter* agrees with the *Celestial Course*.

12. The same is the case of all *Arabia*, and its Eastern Coast.

13. In *Camboja* in *India*, lying under the *Tropick* of *Cancer*, as also in the Regions of *Malabar*, or the Eastern Coast of the *Indies* which regard the *West*, and extend themselves from the *North* towards the *South* to the eighth degree of *North Latitude*; I say these Regions the *Winter* or rainy Seasons possess the Months of *June*, *July*, *August* and *September*, but especially from the middle of *June* to the middle of *September*. Neither in all these places doth it rain in an equal time, but more continually in the province of *Goana* and *Cocina*; and less in *Camboja* where it only raineth three Months, in the other eight months it seldome raineth in *Camboja*, but in *Goa* in the Months of *April* and *May* it raineth, but less vehement, and beginning with Thunder and Storms; so that to *Autumn* here, may be ascribed half the Month of *March*, also *April*, and *May* to the 15*th* of *June*, then from the 15*th* of *June*, *July* and *August* to *Winter*, likewise from the 15*th* of *September* to *December* the *Spring*; the other Months from the 15*th* of *December* to the 15*th* of *March* to *Summer*, for in these Months is great drought, because that the *Water* of the former Rains is extracted by the Sun from the Earth. Yet the Inhabitants do not number four Seasons, but only two, *Summer* and *Winter*, or rather a dry, and a rainy Season.

The *winter* is not so called from the cold (as with us) but from the Rains which then fall.

Besides these Raines, there are frequent Storms on the Coast, and also Thunders in those rainy Months; so that the Sea is supposed to be then shut up, and many Rivers then overflow; the Sea is open again in the Month of *September*, and then Ships put forth to Sea from the Coast of *Malabar* into various parts of the world. Neither are there any violent rains in these places in the Fields, except some Storms, by reason that it ceaseth for many hours of the day, therefore it affordeth the Inhabitants a time of Planting, and Sowing, which they do in these watery Months. The Air also is of a moderate heat at that time, because the Sun is obstructed with *Clouds*, so that the remote Inhabitants expatiate from the Shore to the Hills and Fields for recreation, where the inundation is not great, and incredible fertility is acquired to the Earth by this Rain. But if these Raines fall not on the year, (as in *Anno* 1630.) which seldom happens, then all hope of Sowing and consequently Harvest is taken away; thence cometh Scarcity of Corn, a hot Sultery Air, burning Feavours, Pestilences, and Deaths of Thousands of People. In the said year 1630, and the year following Mans Flesh was publickly sold in the Shambles in *Camboja*: Sometimes the Shores do so rage, that the Houses (which are but slightly built) fall by the inundation of the River.

A great Famine in *Camboja* in 1630.

They Sow in *May*, and the beginning of *June*, and Reap in *November* and *December*: it is otherwise in *Guiny*.

This *Summer*, and this *Winter* is contrary to the *Celestial* Course or Motion of the Sun, for in the Months of *July* and *August* the Sun is vertical to those places, or very near the *Vertex*, therefore they must have heat and drought; this is the great felicity of those places, for if these Rains fall not, and the *Clouds* obscured not the Sun, that great heat of the Sun would render the ground Sandy, and Steril, as *Lybia*, and *Arabia*, where these Rains are not, the Sun being near the *Vertex*. Contrarywise in the Months of *December*, *January* and *February*, they should have *Winter*, or lesser heat, because that then the Sun is most remote from them; and then they have *Summer*: Yet in the night the Air is cold enough: moreover a continual Wind from the 12*th* hour of the day to the 12*th* hour of the night bloweth from the Sea, which is very acceptable.

14. In

14. In the Coast of the *East Indies* which is called *Choromandel*, the seasons also differ from the *Heavens*; for in the Months of *March*, *April*, *May* and *June*, the *Sun* causeth vehement heat, and there is no rain. Now the People which for the most part are *Saracens*, divide the year into the *hot*, the *wet*, and the *Cold seasons*; the *hot* or *Summer*, as I have said, is in the months of *March*, *April*, *May*, and *June*, but the intollerable *heat* is from the middle of *May*, to the middle of *June*, the Wind blowing from the *North*, unto which if you turn your face, you shall discover so great a heat of the Air, as if you drew nigh an *Oven*; for the *Sun* then in that *Plaga*, is in the *Meridies*: also the Wood and Stones contract a great heat, yet the Waters in the Wells is so cold, that many drinking thereof for extream heat dye.

The greatest heat of the day is between Nine in the Forenoon, and Three in the Afternoon; in these intermedial hours they rest from travelling: the other hours before Nine in the Morning, and Three in the Afternoon, the Air is at least tolerably temperate, serene, and acceptable, the Heaven delightful, and travelling pleasant.

The *Wet season* taketh up four months, *July*, *August*, *September*, and *October*.

The *Cold season*, *November*, *December*, *January*, and *February*: in *December*, and *January* the *Cold* is sensible enough, especially in the night.

Here are many things which deserve our enquiry, for in the months of *March*, *April*, *May* and *June*, the *Sun* cometh to those places of the Coast of *Choromandel*, and becometh *Vertical* to them; therefore it is no wonder if they have great heat; but why have they not the same heat in *July* and *August*, seeing he is equally as near them in those months, and by reason of the former heat it should be more hot? Moreover why do the seasons of the *Coast* of *Choromandel* differ from the seasons of the *Coast* of *Malabar*, seeing that they both lie in the same *Climate*, and have the *Sun Vertical* on the same days, and on the same remote? And that which is more to be wondered at, there interceedeth between these two Regions, in some places 70, in others only 20 miles interval; so that you may come into a place of a serene and servid Air, where the *Winter* predominateth, and that in the space of one day. 'Maffeus thus speaketh of these places, In these Regions saith he 'amongst other admirable things, that above others exceedeth the reach of all 'Philosophers, that in the same *Plaga* of the Heavens, in the equal access and 'recess of the *Sun* in the same months of the year, from the *Sun* rising beyond 'the *Mountain* of *Gate*, (which by a direct excursion to the *Promontory* of 'Cori intersects the whole *Region* of *Malabar*) there is *Summer* and drought, and 'from the West on this side *Gatis* there are *Rains* and *Winter*; that in so near 'a propinquity of places, in respect of the course of the seasons, the same Peo-'ple almost seem *Antipodes* one to another. But not only in these, but also in others we have shewed this diversity to be found, and shall shew more anon. The cause is the scituation of the *Mountains*, which determinate the Land of *Choromandel* from *Malabar*, proceeding from the *North* towards the *South*. To this must be added divers Winds, for on the *Coast* of *Choromandel* a general *Eastern Wind* is more discovered, (except in the *Summer months* of *May* and *June*,) which driveth the vapours towards the tops of the *Mountains*, whence it raineth in the Land of *Malabar*. These *Mountains* tops are discovered to be continually covered with *Clouds* in the *Pluvial months*, also more vehement Showrs in those, where the rain is in *Malabar*: But when it raineth in the Region of *Choromandel*, then is there a serenity in the tops of the *Mountains*, as in the Land of *Malabar* (except the months *July* and *August*,) for in these it raineth in both Lands.

15. In the *Regions* of the *Gangick Sea*, opposite to the *Coast* of *Chroromandel*, and in the *Northern Torrid Zone*, as *Siam*, *Peru*, the *Chersonesus* of *Malacca*, the *Pluvial months*, in which the Rivers overflow, are *September*, *October* and *November*. But in the Land of *Malacca* it raineth every week of the year twice, or thrice, except the months of *January*, *February* and *March*, in which there is a continual drought. All these are contrary to the *Celestial* course; and their causes must be sought from the Mountains, Winds, the propinquity of the Sea, and the like: But because as yet we have no accurate observations concerning these Regions, we will not search them here. The chief cause of the Fertility of these Regions, is the overflowing of the Rivers. The vapours of the adjacent Sea, the Rivers, and the Winds do much allay the heat, whence the Inhabitants have great plenty of Fruits. In the Kingdom of *Patana*, and those bordering on it, the *Summer* beginneth in *February*, and continueth to the end of *October*; in which time there is a continual heat, which is allayd with a continual *Oriental Wind*, the Air wholsom. In *November*, *December* and *January*, there are continual Rains, which yet do not hinder a new increase every month at the least. The same must be understoood of *Camboja*. And this Winter agreeth with the *Celestial* course.

16. Leaving *Asia*, the *Pacifick Sea* being Sayled over, we enter that part of *America* which lieth under the *Torrid Zone*, which is twofold, *South* and *North*: the *South* again is twofold, *Peru* and *Brazilia*; although the parts of *Peru* be vicine, yet they have contrary Seasons in one and the same time; for the Region of *Peru* is divided into three parts, the *Shoar* or *Maritim part*, the *Mountainous* and the *Plain part* which lie in the same *Climate*. In the *Mountainous places*; they have a *Pluvial Winter* from the month of *October*, to the end of *March*, when they should have *Summer* by the vicinity of the *Sun*. They have *Summer* from the entrance of *April* to *October*, in which months no Rains do fall; but in the *Winter months* there are continual Rains. Therefore the *Terrestrial seasons* differ here from the *Celestial*. In *Maritim Peru* there is almost no *Winter* in the whole year, but they account their *Winter* from the month of *April* to *October*, (which agreeth with the *Celestial* cause, because the *Sun* is then removed from them to the *Tropick* of *Cancer*, and thence returneth) by reason that in those months it Raineth not, but almost every day the *Clouds* appear so thick as if it would immediately Rain, but there falleth only a certain kind of Dew, and that especially in the months of *June*, *July* and *August*,: Yet this mist is not unwholsom, but being condensed into Dew, and falling, it irrigateth the Vallies. It doth not Rain at this time in the *Mountainous places*, but is a *serene season*. This *Maritim Peru* is distinguished into Vallies, and *Sandy places*: the Vallies are abundantly fertile; the *Sandy places* which are between every Valley are steril, also in the adjacent *Islands* it never raineth, but a Dew only falleth.

In the *Isle* of *Gorgon*, which is removed three degrees from the *Æquator* towards the South, it raineth for Eight months almost continually, with so great *Thunder* and *Storms* not to be paralel'd. In *May*, *June*, *July*, and *August*, it is *Summer*, and dry, contrary to the *Celestial course*. In some parts of this *Torrid Zone* it is very cold, for in the *Province* of *Pastoa*, in the Valley *Atrisina* both in *Summer* and *Winter* the season is very cold, so that the fruit encreaseth not. In the *Region* of *Cusco*, which lyeth almost in the middle between the *Tropick* of *Capricorn*, and the *Æquator*, hard *Frosts* and *Snows* are also found.

From whence it is collected, that *Peru* is parched with no violent heat, but rather enjoyeth a temperate Air throughout the whole year; excepting its *Sandy places* and Hills, but the Vallies are most fertile and pleasant, abounding with Trees and Fruits. Their Water they receive in the *Winter* from the Dew which I have said falleth every day; but in the *Summer* from the Flouds which descend and rush from the *Mountains*, because in the *Mountainous Region* it is then *Winter*, and raineth. And from these *Torrents* the Inhabitants conduct the Water by certain conveyances into the Vallies; yet some Vallies are content only with the Dew, and yet produce abundance of Fruit.

The cause of this diversity between the seasons of the *Mountainous* and the plain *Peru*, and why it never raineth in the level *Peru*, is difficult to declare; for these *Mountainous parts* are so near to the level *Maritim Peru*, that any one in the morning descending from these pluvial and raging showers, in the evening may arrive at the level *Peruvia* where there is no rain but a se-

rene

rene Air. The cause seemeth to be twofold. First, those tops of the *Mountains*. And Secondly, a *South-West Wind* which is proper and perpetual to *Peru*. Therefore this *Wind* forceth the *Vapours* towards the *Mountains*, where they are as it were condensed, so that the *Clouds* may not distil their drops in the level *Peru*; but in the *Mountainous places* they are attracted after the mode which we have explained concerning *Mountains*.

Therefore *Peru* hath this in common with *Ægypt*, and some other places, that the *South Winds* are not the cause of Rain and warmth, but rather a clearing the Air; although it may seem to have place in all the places lying towards the *South* from the *Æquator*.

17. The *South* part of *America*, *viz. Brazilia*, is very pleasant, and excelleth with an wholsom disposition of the *Air*; so that it giveth place unto no *Region* of the *Earth*. Concerning its seasons, the Inhabited front of it receiveth the *Subsolan Wind*, which refresheth *Men* and *Beasts*, and freeth them from the intolerable heat of the *Vertical Sun*; which if it approach the *Sea*, is discovered in the morning; if it depats from thence, it is discerned more after the *Spring* of the morning, neither doth it languish about the evening. It is wont do do so in many parts of *India*; but it is so intense by the assistance of the *Sun*, that it is vigorous beyond midnight, and the *Nocturnal Condensation* of the Air cannot easily dul or overcome that dilation and natural motion of the Air.

See *Piso* in his Book *De medicina Braziliensi* concerning the seasons.

But the other part (which is seperated from *Peru* by high ridges of *Mountains*, and vast spaces) although it be infested with an unwholsom *West Wind*, and a *Mediterranean Gale*, at midnight, yet it is every where encompassed with *Mountains* near the *Sea*, and is so driven from the Matutine Gale that it can hardly penetrate to the Shores.

As in these most delectable and constant seasons of the year, there are no great mutations, so they happen in the day and night seasons more evidently; because the days and nights are not more equal in space, than different in heat and cold: for the *Sun* ascending higher, after it hath opened the pores of the *Earth* and *Men*; it hideth it self more profoundly, and that by an equal interval; whence the greater condensation of the Air, effects the more extream rorisluous part of the night. Hence a penetrating cold, from the third hour of the night, even to the rising of the *Sun*, striketh the body, so that that this is wont to be very noxious to those that are new comers into the Land: which he that shunneth not, will hardly lead a good life in these, or other parts of the *Indies*. The *Brazilians* therefore very cautiously keep a continual fire in their habitations; and near their resting places: by the benefit of which they may be able to indure cold, and drive away venemous Insects.

Moreover the direct ascent and descent of the *Sun*, causeth the shortest *Crepuscules*, and maketh the nights so even to the days, that an hours difference can hardly be found.

The cold is more in the *Summer* nights than in the *Winter*, which is to be admired at; and it is more mildly discovered in the latter than in the former, the Air being tranquillous. The beginning of the *Wet season* is in the month of *March*, or *April*, and is finished in *August*; in which the *Sun* returning from *Cancer*, in part dissolveth the matter of the Rain into winds, whence immediately proceed storms and tempests; which by and by the *Spring Season* calmly composeth. The Inhabitants of the *Tropicks* know no mutation about the seasons of the year; the *Sun* twice coming towards, and departing back, as many supposed; but only going away from the *Æquator* to the *Tropick* of *Cancer* or *Capricorn*.

There are only two times of the year, whereof one is dry and hot, called *Summer*; the other hot and moist like to *Summer* with us in *Europe*, which supplyeth the place of *Winter*. And this is found most true in all the *Indies*, between both *Tropicks*. For although the beginning and end of the *Winter* and *Summer seasons*, by reason of the particular incidences of the place, and also for the greater or lesser vicinity of the *Æquator*, do not happen in the same; yet for the most part the year is accomplished in about six months, inclining

clining to *Humidity*, and six to *Siccity*: and on that account, as in the places of many Cities of *Asia* and *Africa*, of the same *Latitude* with us, there is thence a great remission of the heat; but here is little perceived, although the *Sun* passeth the *Zenith* of the *Brazilians* in the months of *October* and *February*, and striketh the *Earth* with *reflex raies*, at most *acute Angles*. Which diversity of these *Regions*, promiseth the Inhabitants perpetual health, by reason of the often calms, and the Air quelling all noxious heats.

Hence it is easy to collect, that the seasons of the year do not so much depend immediately on the *Sun* and his *motion*, as on the species of the *Winds*, the diversity of aspects of the *Stars*, the quality and peculiar scituation of the *Region*

Moreover in these *Mediterranean Regions* towards the *West*, the *nights* are more *cold*, than in the *Maritim*; so much some times that the *Frost* seizeth on the very *hairs* of the *People*. In the same months from the *East* about the *Ocean* is *Summer* and *Siccity*; from the *West* beyond the *ridges* of the *Mountains*, and the *Marshes* of *Brazilia*, is the *Winter*, *Fogs* and *Rain*. No Islands are opposite to *Brazilia*.

Oftentimes the *Heavens* may be seen covered with vast *Clouds*, from the *East* towards the *West*; but those again very thin, except in the days of the *Rain*, the *Sun* both rising and setting may be beheld with fixed eyes; for there is a wonderful serenity on every side, especially towards the evening; which never afordeth any *Vapours* or *Clouds* to the succeeding *Moon*, but renders the night so clear, that the old and new *Moon* may be seen in one and the same day; and letters may be well read at the *quarter Moon*.

The *Æther* in respect of the diversity of the *Planets*, other inferiour causes ateeding, receiveth its distemperature; for the *Heaven* about evening is bright with *Lightning* without *Thunder* in the most dry and serene season.

The drops of *Rain* are very great, and fall with great violence, which is wont to be preceeded by a suffocative warmness.

The *Dew* here is more fruitful than that of *Europe*, being impregnated with much *Winter*, and therefore is more penetrating and thin, especially in *Summer*; which is manifest in all *Mettals*, and in *Iron* especially, which it easily eateth up without the assistance of any *Clouds*,

The *Meadows* and open *Fields* do less wax green in the *Summer*, but more especially in the *Pluvial months*, (although the *Earth* then seemed somewhat more sad to the Inhabitants) and the places unfit for *Tillage* afford *Pasture* See *Piso*.

All the Lands of *Brazilia* arise into moderate and pleasant *Hills*; there are no *Mountains* of any great hight in the *Coasts*: but yet some are discovered afar off in the *Solitudes*, among the *barren hills*, yet not every where, but with some intervals of *Miles* the *Valleys* are interposed, every one irrigated with some small *Rivers*; and for that reason are not only fertil in the *pluvial months*, but also in those of the *Summer*. The *Hills* in the *Summer months* are steril by reason of the heat of the *Sun*; so that they wither, and *Grass* doth not only die on them, but sometimes the *Trees* also. It very seldom raineth throughout the whole day and night; and for some continual days very seldom without intermission: the *Pluvial months* do a little differ. In the year 1640. (as *Marriners* have observed) there were 7 *Pluvial months*, viz. *February*, *March*, *April*, *May*, *June*, *July* and *August*. But most, and almost continually from *April*, *May* and *June*. In the year 1642. the most *Pluvial months* six, *viz. March*, *April*, *May*, *June*, *July* and *August*. But the account of the other years was not much different. Now these observations are to be taken only for one place, and not for all the places in *Brazilia*.

Hence it is manifest that the *Summer* and *Winter* of *Brazilia*, answereth to the *Celestial* account, seeing that in the greatest distance of the *Sun* they have *Rain*; and in the least and moderate towards the *South*, they have heat: Yet there are not a few irregularities, the cause of which are to be sought from the scituation of the *Winds* and *Earth*.

18. This is enough for the *Southern America*; in the *Northern* it is otherwise. For in the *Province* of *Nicaragua* it raineth for six months; and the other six months it is *Summer*, and dry weather; so that passengers may travel in the night. This now is contrary to the *Celestial course*, for in the wet The six rainy months are *May*, *June*, *July*, *August*, *September*, and *October*.

months; for in *May*, *June*, and so on to *November*, the *Sun* is *vertical*, or near the *Vertex* unto these places: so that then they should have *Summer* and *Siccity* and not *Rain*. In *November* and *December* it is very distant, therefore they should there have *Rain*.

Thus have we declared the *Seasons* of the chief places of the whole *Torrid Zone*, from which being compared one with another we collect. 1. That in some places, the cold is scarce sensible in some part of the year; and therefore the *Winter* is rather to be defined by the *Rains*, than by cold in those places. 2. In some places the cold is sufficiently sensible. 3. In the night time, especially in the last quarter, the Air is discovered to be very cold, by reason of the depression of the *Sun* beneath the *Horizon*. 4. That it is not the least cause of the tolerable heat, and that those *Regions* are inhabited, *viz.* that no days are there long, but almost equal to the night; for if the days were as long there, the *Sun* remaining above the *Horizon*, as in the places of the *Temperate* and *Frigid Zones*; then doubtless they would be uninhabited. 5. That the Winds do much diminish the heat of the *Sun*. 6. That places which ly in one and the same *Climate*, have the *Summer* and *Winter* in divers times, although they be very near to one another. 7. That those places which have *Siccity* and *Humidity* contrary to the access and recess of the *Sun*, are so scituated, that on the *East* they have *Ridges* of *Mountains*, and that they regard the *West*, *Peru* excepted. 8. That the *Seasons* observe no certain rule in the places of the *Torrid Zone*. 9. That although most of the Inhabitants divide the year into two *Seasons*, which is likewise observed by many *Writers*, to wit, a *Pluvial* and *Dry Season*, yet it may aptly be divided into four, so that they may not only have a *Summer* and a *Winter*, but also a *Spring* and an *Autumn*. For as in our parts the *Spring* approacheth near the nature of *Summer*, and the *Autumn* of *Winter*; so also the dry places of the *Torrid Zone* may be divided. 10. And lastly in some places there is a continual *Harvest*; in some only in two parts of the year, and in others only in one part of the year.

Proposition XII.

To shew how the four Seasons of the year are made, &c. *in the places of the* Temperate Zones.

Of the seasons of the year in places lying in the *Temperate Zones*.

1. In these places that cause, which we have placed in the first place amongst the causes of the *Seasons* in the first *Proposition* of this *Chapter*; is so potent in respect of the other causes, that that above almost maketh up, and moderateth them. To wit, in the *Regions* of the *Northern Temperate Zone* it is *Spring* and *Summer*; the *Sun* going from *Aries* by *Cancer* to *Libra*; because then he is more near them. Then the *Sun* going from *Libra* through *Capricorn* to *Aries*, it is *Autumn* and *Winter*. But in the *Southern Temperate Zone* the matter is contrary; neither can those other causes altogether disable the force of this first, and induce a new course of the seasons, and be able to alter the times, as in the *Torrid Zone*.

2. Yet those Seasons of divers places vary, so that in one place there may be more Heat or Cold, or *Rain* than in another, although the places lie in the same *Climate*; but yet they cause not the *Winter* to be changed into *Summer*, or *Summer* into *Winter*. A *Rocky*, *Marshish*, and *Maritim Land*, findeth somewhat another *degree* of heat or cold, than *Vallies*, or a *Chalk* and *Maritim Land*.

3. The places in the *Tropicks* for the most part in the *Summer* have an excessive heat, others a *Pluvial Season*; so that they almost approach to the nature of the places of the *Torrid Zone*. So in the part of the Kingdom of *Guzarat* lying without the *Tropick*; at the same time the wet and dry months are observed: which in the part lying beyond the *Æquator*, the *Summer* is changed into a *Pluvial Season*: yet then there is greater heat, than the dry part of the year, where they have a moderate cold; and in truth, in the places

ces of the *Temperate Zones* we judg the *Summer* and *Winter* not from the drought and rains, but from the heat and cold.

Now in the *Coasts* of *Persia* and *Ormus*, there is so great heat without *Rains* in the *Summer*; by reason of the vicinity of the *Sun*, that both the *Men* and their *Wives* ly in *Cisterns* full of *Water*. The like heat is in *Arabia*.

The Regions of *Africa* on the *Mediterranean* Sea are called the coast of *Barbary*.

Throughout all *Barbary*, the middle of *October* being past, *Showers* and *Cold* begin to increase; and in *December* and *January* the *cold* is perceived more intense; and that only in the morning: and withal so remiss, that the Fire is not desired. *February* taketh away the greatest part of the *cold* from the *Winter*; but yet it is so inconstant, that sometimes 5 or 6 times in one day the Air changeth. In the month of *March*, the *North* and *West Winds* blow violently and cause whole trees to be vested with blossoms. *April* giveth form almost to all Fruits; so that the entrance of *May* and the end of *April* is wont naturally to produce *Cherries*. In the middle of *May* they gather *Figs*, and in the middle of *June* in some places are ripe *Grapes*; the *Figs* of *Autumn* are gathered in *August*, and there is no greater plenty of *Figs* and *Pears* than in *September*. There is not so great intemperies of the year in those places, but that the three months of the *Spring* are always temperate. The entrance of the *Spring* (that is the *Terrestrial*, not the *Celestial*) is as they reckon on the 15*th* of *February*, and the end the 18*th* of *May*; in all which time the Air is most grateful to them. If from the 25*th* of *April* to the 5 of *May* they have no *Rain*, they esteem the same as ominous. They count their *Summer* even to the 16*th* of *August*, at which time they have a very hot and serene Air. Their *Autumn*, from the 17 of *August* to the 16 of *November*, and they have that for two months; to wit *August* and *September*, yet not great. That which is included between the 15 of *August*, and the 15 of *September*, was wont to be termed by the *Antients* the *Furnace* of the whole year; and that because it produced *Figs*, *Pears*, and that kind of Fruit to maturity. From the 15 of *November* they reckoned their *Winter*, which they extend to the 14 of *February*. At the entrance of this they begin to till their Land, which is the plain; but the mountainous in the month of *October*. The *Africans* have a certain persuasion that the year hath 40 very hot days, and on the other side so many cold, days; which they say begin from the 12 of *December*. They begin the *Æquinoxes* on the 16 of *March*, and on the 16 of *September*. Their *Solstices* on the 16 of *June*, and the 16 of *December*. The end of their *Autumn*, all their *Winter*, and a good part of their *Spring* is full of violent *Winds*, accompanied with *Hail*, *Lightnings*, and dreadful *Thunders*; neither is there wanting in many places of *Barbary* an abundance of *Snow*. In *Mount Atlas* 7 *degrees* distant from the *Tropick* of *Cancer*, they divide the year only into two parts; for from *October* even to *April*, they have a continual *Winter*; and from *April* again to *October* they have *Summer*. In this there is no day, in which the *Mountains* tops glitter with *Snow*.

Of the seasons of the year of *Barbary*.

The Opinion of the *Arabians*.

In *Numidia*, the parts of the year swiftly pass away, for in *May* they reap their Corn, in *October* they gather their *Dates*; but from the middle of *September* to *January* a violent *Frost* continueth; *October* abstaining from *Rains*, all hopes of *Sowing* is taken from the *Husbandman*: the same happeneth if that *April* produceth not *Pluvial Water*. *Leo Africanus* remembreth many *Mountains* of *Snow* in *Africa*, not far from the *Tropick* of *Cancer*.

The seasons of *Numidia*.

The North part of *China* although no more remote from the *Æquator* than *Italy*, yet it hath a cold more sharp; for great *Rivers* and *Lakes* are congealed up with *Frost*, the cause of which is not yet sufficiently known, except we should refer it to the *Snowy Mountains* of *Tartaria*, not far remote, to the avoyding of which cold, they abound with the *Skins* of *Foxes*, and *Scythilian Rats*.

Of *China*.

New England, although it lie in 42 *degrees* of *North Latitude*, and therefore no more removed from the *Æquator* than *Italy*, yet in the month of *June*, when Sir *Francis Drake* was there, the Air was so vehement cold, that he was compelled to sayl back to the *South*; for the *Mountains* were

New England

then covered with *Snow*. The cause is the *Frigid* temperature of the *Earth* being *Stony*.

The seasons of *Ægypt*.

In *Ægypt* which is bounded with the *Tropick* of *Cancer*, the *Spring* and *Temperate Season* of the year is observed about *January* and *February*. The *Summer* beginneth with *March* and *April*, and continueth *June*, *July* and *August*. The *Autumn* possesseth *September* and *October*. The *Winter* hath *November* and *December*. About the beginning of *April* they *Reap* their *Corn*, and presently thresh it. After the 20 of *May* not an *Ear* of *Corn* is to be seen in the *Fields*; no Fruits on the trees. On the *Ides* of *June*, the inundation of the *Nilus* beginneth.

The seasons in the streights of *Magellan*.

In the *Streights* of *Magellan*, and the adjacent *Regions*; although they be no more distant from the *Æquator* than our parts are (under the 54 *degree* of *South Latitude*) yet they have no very hot *Summers*. So that the *Hollanders* in the month of *January* (when there should be an hot *Summer*) found a great glade of *Ice* in the *Creek* of one of their *Seas*. In the *Mountains* of the adjacent *Coasts* *Snow* is discovered all the *Summer* long; and it is observed, that in almost all the *Regions* of the *South Temperate Zone*, they have a Cold far more intense in *Winter*, and a violency of *Rain*, and a less heat in *Summer*, than the parts of our *Northern Temperate Zone*. Whether this be the cause, that the *Sun* makes a longer stay, and the slower progress in the *Semicircle* of the *Northern Zodiac*, than in the *Southern*; is to be questioned.

In the Neighbouring *Province of Peru*, which they call *La Valla Imperial*, in the *Province* of *Potosi*, they find so great a *Cold*, that for four miles circumference there groweth nothing.

The season of *Chili*.

In the *Kingdom* of *Chili*, which extendeth it self from 30 *degrees* of *South Latitude*, to 50 *degrees*; the *Spring* beginneth in the months of *August* (sooner than the *Celestial Account* admitteth) and endeth in the middle of *November*: And from the middle of *November* *Summer* beginneth, even to the middle of *February*; from whence *Autumn* leadeth on to the middle of *May*, which the *Winter* succedeth, which is very violent, and dispoileth the *Trees* of their *Blossoms*, and scattereth a deep *Snow*; with a vehement *Frost*, which yet is discovered by the *Sun*, except (which is very seldom) that the *Sun* appeareth not, but the *Snow*, rarely falleth in the *Vallies*; for although it falls in great abundance, and is heaped up so high, that it ascends the tops of *Mountains*, and is heaped together in the vacuity of the *Mountains* as in so many wells, and indure almost the whole year; yet being there dissolved, they flow into the *Rivers* and *Torrents*, which run through the *Vallies* with a great force even to the *Sea*; to the great enrichment of the *Grounds*. But although here it *Snow* not, except rarely in the *Plains*; yet it maketh so excessive a *Frost* that the like is scarcely felt in many parts of *Europe*; which happeneth partly from the *Altitude* of the *Pole*; partly from the propinquity of the *Mountains*; from which descend so subtile and penetrating *Winds*, that sometimes they are unsufferable; whence it cometh to pass that the *Maritim* parts are more temperate:

He that is Studious may collect other differences of *Region* under the same *Climate*, or in the vicine *Climates* from *Writers*, for example; that in *England* the Air is not so cold as in *Holland*, so that they pen not up their *Heards* in the *Winter*. Betwen *Siberia* and *Tartaria*, in a place seated not far from the *Frigid Zone*, in the end of our *Temperate*, are said to be plesant *Fields*, and rich *Pastures*, almost no cold, seeing that they scarce feel *Winter*; where by the command of the Duke of *Moscovia* the City *Tooru* is built, which is at this day so much encreased, that it is able to repell the Assaults of the *Tartars*.

In

The Island of *Japan*.

In *Japan* the *Winter* is *Cold*, *Snowy*, *Rainy*, when yet other *Regions* of *Europe* and *Asia*, lying under the same *Climate*, have far lesser *Winter*; the cause is because that *Japan* consists of many *Islands*, disjoyned by a small *Euripus*, and that it also lyeth in the middle of the *Ocean*.

America very hot in the *Summer*.

In *Armenia* and the adjoyning places, there is great heat in *Summer*; because it lieth amongst *Mountains*, here and there mixed with *Fields*; hence the more rich in some places in *Summer* remove to the tops of the *Mountains*; and remain there for some months; but the meaner sort in the day time defend themselves in the *Mountains* from the heat, and about eventide do descend to the lower ground.

Proposition XIII.

To declare how in places in the Frigid Zone, *the four Seasons of the year have themselves with the light.*

Of the places in the *Frigid Zone*.

The cause of those *Seasons*, with the *light* proposed in the entrance of this *Chapter*, thus stands in the *Frigid Zone*.

1. The *Center* of the *Sun* for some days or months, (as the place is either nearer or remote from the *Pole*) doth not arise above the *Horizon*, and for so many days setteth not.

2. In those days when he is above the *Horizon*, he only illustrateth those places with his oblique raies, because he is not much elevated above the *Horizon*; but moveth round it, because those places lare over much removed from the way of the *Sun*.

3. The *Sun* is not deeply depressed beneath the *Horizon*, yea, in places near the *Polary Circle*, or *Artick Pole*; although the Center of the *Sun* doth not arise, yet part of his Skirt ariseth and is beheld for some days above the *Horizon* before the *Center* it self ariseth, by reason that the half *Sun* possesseth 15 *minutes* in the *Heaven*. For example, let us take those places whose distance is from the *Æquator* 67 *degrees* towards the *Pole Artick*; let the *Pole* be elevated according to this *Latitude*, and in the *Meridian Crena* of the *Horizon*, you shall see that the *degrees* of the *Ecliptick* do not arise from the 19*th degree* of *Sagittarius*, to the 11 of *Capricorn*; that is the *Center* of the *Sun* being in that *Arch* doth not arise for 24 days, *viz.* from the 10*th* of *December* to the 4*th* of *January*; and yet part of the Skirt of the *Sun* for that whole time shall be above the *Horizon*, to wit, on the 21 of *December* the *Limbus* glittereth the *Horizon*; but on the 10 of *December* as also on the first of *January* half the *Sun* shall be above the *Horizon*, and half beneath, because the *Center* is then in the *Horizon*. But the whole *Sun* shall be elevated above the *Horizon*, when the *Center* of the *Sun* shall hold the 14 *degree* of *Capricorn*; that is about the 4 day of *January*: also the whole shall afterwards appear, when his *Center* shall possess the 16 *degree* of *Sagittarius*, that is about the 7 of *December*.

But in places where the elevation of the *Pole*, is 70 or 75 *degrees*, there this difference between the *Oriental Limbus*, and the *Oriental Center* is very little, so that the *Limbus* or Skirt scarcely anticipateth the rise of the *Center* of the *Sun* one day, or half a day.

From this smallest of depression, it followeth also that they enjoy the light of the *Crepusculum* many hours before the rising, and after the setting of the *Sun*, and although the *Sun* ariseth not, yet in all, or many of the hours of the day they have light in the *Air*.

There is also another cause, which maketh the *Sun* first to be seen before that he is elevated above the *Horizon*. See Chap. 19.

For thence it cometh to pass that not only the *Sun* is seen before he is elevated above the *Horizon*, and before the *Raies* can directly come from him to the *Eye*, but also that the light of the Twilight sooner illustrateth the *Air*, than it would do without this refraction. We shall anon alledge an example of the appearancy of the *Sun* proceeding from refraction.

4. The

4. The *Full Moon*, and near the *Full*, remaineth above the *Horizon* for many days, when the *Sun* is depressed beneath it, *viz.* for so many more days by how much that place is more near the *Pole*. Yet it is not so highly elevated above the *Horizon*, as to cause any warmness: But the *Full Moon* in those months, in which the *Sun* remaineth above the *Horizon* in an whole revolution, the *Full Moon* is never above the *Horizon*.

The Planets not always the same above Horizon.

5. The *Fixed Stars* are almost the same always above the *Horizon*, but not the *Planets*. For *Saturn* remaineth 15 years above the *Horizon* of the place near the *Pole*, and 15 beneath the same: *Jupiter* 6 years beneath, and 6 above the same *Horizon*: *Mars* 1 year: *Venus* and *Mercury* about half a year. From this cause it is likely that there is great diversity of the motions of the Air and seasons in divers years.

6. The Land in most places of the *Frigid Zone*, is Stony, Rocky, and as hard as Flint; in few places Chalky, Sulphureous and Fat: In these places there is a moderate fertility, in the other a sterility.

7. Those Regions are incompassed with the Sea, but for the *Mediterranean* we as yet have no certain account.

8. Some of the Regions of the *Frigid Zone* have *Mountains* of a moderate hight, but most want them, running on a plain for a long space.

9. The cold Winds there frequently blow from the *Polary Plaga*, seldom the East Wind, and least of all the West. In the cold *Artick Plaga*, the North Winds rage; in the *Antartick*, the *South*.

10. *Clouds* and *Rains* frequently perplex these *Regions*.

From these causes it is not difficult to collect what the condition of the seasons in these *Regions* are; for in the *Winter* time when the *Sun* riseth not for whole daies, it cannot otherwise be, but that for the most part thick *Clouds*, *Frost*, and *Cold* must render the Land uninhabitable. They are not altogether deprived of light for that time; for the *Moon* being above the *Horizon* for a long time giveth light, and the twilight is daily afforded from the *Sun* to the *Vicine Horizon*. But the *Snow*, the *Clouds*, and the *Rain*, are able to hinder both causes, for thick *Clouds* stick close about the *Earth*; which cannot be discussed by the heat of the *Sun*; and therefore hinder the aspect of remote things. There is no fertility, but all barren and uncultivated; for that which some suppose, by how much any *Region* is nearer to the *Pole*, by so much less it feeleth the intenseness of the cold, and the Fields are found more fertil, seemeth not probable to me; when neither in *Nova Zembla* (which is distant 16 *degrees* from the *Pole*) nor in *Spitzbirga* (which is only 8 *degrees* distant) such a constitution of the *Earth* is found: but a roughness and hardness, and almost in the middle of *Summer*, *Snows* or at least *Showers* and very cold *Winds*. Neither is their opinion helped by one example, observed by *Mariners* in a certain *Region* 9 *degrees* distant from the *Pole*, which most men suppose to be *Groenland*. For in this *green Grass* is found, and an Air more warm than in *Nova Zembla*, as is most certain. The only *Animals* peculiar to these *Northern Regions*, is the *Rhinoceros*; and this in the space of a month becometh exceeding fat, by feeding on this grass.

Rhinoceros a kind of Venison.

Nevertheless, seeing that as yet not many *Regions* are hitherto found of this temperature in the *Frigid Zone*, it is not expedient for us from this single example to make a general conjecture, especially seeing that the cause of this peculiar constitution is manifest, for that Land is full of *Marshes* and *Sedgey*, and the grass by which the *Rhinoceros* or *Dear* are rendred so fat, is not a kind of *Terrestrial Grass*, but *Sedge* and *Osiers*; but other *Herbs* are not there found, or any *Trees*. From whence we may gather, that that Land containeth some fat and *Sulphureous Substance*; which being mixed which the water produceth such an *Oyle*, and fattening *Sedge*; but that the like *Earth* is to be found in other parts of the *Frigid Zone*, hath not as yet been observed, but rather the contrary.

There-

Therefore in the *Winter* in these places is little light, but an incredible and great violence of *Cold*, *Snow*, *Showers*, and *Polary Winds*. And this *Winter* beginneth in the *Northern Frigid Zone*, when the *Sun* first entreth *Capricorn*; although also the *Autumn*, the *Sun* going from the 1 *degree* of *Libra* to the 1 of *Capricorn*, be little different from this violent *Winter*. The *Spring* indeed is less infested with this violence of the Air; yet it is without *Snows*, *Showers*, and cold *Polary Winds*. Yet the increase of heat in the day, or rather the decrease of cold, is discovered at that time, *viz.* the *Sun* going from the 1 *degree* of *Aries* to the 1 of *Cancer*. And in this *Vernal season*, or in the latter days of it, the *Sun* continueth above the *Horizon* in intire revolutions; and therefore then there is discovered a moderate heat, which yet is not of that force as to melt and dissolve the *Snow* of all those places into *Water*, much less is it able to melt the *Ice*; whence Marriners report, that here is to be found *Snow* and *Ice* of a perpetual duration: Then the *Summer* shall be, from the going of the *Sun* from the 1 *degree* of *Cancer* to the 1 of *Libra*; in the first part of which, the *Sun* yet remaineth for whole daies above the *Horizon*, and augmenteth the heat by some accession; so that *June*, *July*, and *August*, are months of a tolerable Air. In some places among the *Mountains*, the heat of the *Sun* is intense; but the *Showers* and *Clouds* do much hinder this benignity of the *Sun*, and especially the most sharp *Northern Winds*, unto which sometimes *Snow* is adjoyned; so that no fruits or Corn can here arrive to any maturity, except in some places near the *Artick Circle*.

CHAP. XXVII.

Of the Shadows, *which the bodies erected in the* Earth, *and illuminated by the* Sun *do cast; and of the division of the* Earth *arising from thence.*

SEeing that the *Shadows* in divers places of the *Earth*, which the illuminated bodies of the *Sun* do cast, are carryed into divers places, and falling on the Sense, have much variety; hence it came to pass, that men who were ignorant of this cause, were struck with an admiration; and in respect of the *Shadows* of the *Earth*, divided the Inhabitants of the *Earth*, as it were into three sorts, (which division must be applyed to the places of the *Earth*, or to its *Superficies*:) So that they termed some *Amphiscij*, others *Heteroscij*, and the rest *Periscij*. The explication of which terms, seeing that they contain but small learning; we shall say somewhat also concerning *Shadows*, which although they do not pertain to *Geography*; yet by reason of their near affinity, they may be proposed in this *Chapter*.

Shadows.

The *Shadows* receive their denominations from the parts or quarters of the *World* into which they are cast, as the *Oriental Shadow*, which tendeth into the *East*, from the *Sun* placed in the *West*. Contrariwise, the *Occidental Shadow*, which goeth into the *Western Plaga* or *quarter*. But here is chiefly to be considered the *Meridian Shadow*, which is situated on the *Plain* of the *Meridian*; or which is cast from bodies perpendicularly erected, or seated in the *plain* of the *Meridian*; the *Sun* then being in the *Meridian*, and this is two fold, *viz.* *Northern* and *Southern*.

The Inhabitants of that part of the *Earth*, are termed *Heteroscij*, where the *Meridian Shadows* of bodies erected, are constantly carried all days of the year to either *Pole*.

The

The *Periſcij*, are thoſe Inhabitasnt of the *Earth*, where the *Shadows* of erect bodies in one and the ſame day, are carried about into all the *Plagas* of the *Horizon*; or where the *Meridian Shadows* in one and the ſame day are caſt to both the quarters of the *Meridian*.

The *Amphiſcij* are thoſe Inhabitants of the *Earth*, where the *Meridian ſhadows* of the erected bodies in ſome days of the year, are caſt to the *North*, and on otherſom to the *South*.

Propoſition I.

The Shadows of bodies erected above the Horizontal plain, fall upon the quarter oppoſite to it, in which the Sun exiſteth.

Of Shadows in reference to *Opticks* and *Dyalling*.

Thoſe that are verſed in the *Opticks* and *Horology*, are wont to ſay that a *Shadow*, an *Opac* and *Luminous body*, are in one *Plain*; but the *Term* or *bound* of the *Shadow*, the *extremity* of the *Opac*, and the *Sun*, are in one *right line*.

For becauſe the *Opac*, the *Shadow*, and *line* concealed from the *extremity* of the *Opac*, to the *extremity* of the *Shadow*, make a *Triangle*: now every *Triangle* is in one *plain*, therefore thoſe three *lines* ſhall be in one *plain*: the *Sun* is in the extremity of the *line* conjoyning the extremity of the *Opacity*, and the *Shadow*. Moreover an erect body is right to the *Horizontal plain*; wherefore the *plain* drawn through it, (*viz.* that of the forementioned *Triangle*) is alſo ſtreight to that *Horizontal plain*, and therefore ſeated in the *Vertical plain*; and becauſe a body erected is ſeated as it were a *Vertex* between the *Sun* and *Shadow*, therefore the *Sun* and *Shadow* ſhall be in the oppoſite quarter.

There are three parts of this *Shadow*, which the *Stile erected*, being illuminated from the *Sun*, doth caſt, *viz.* a *Denſe Shadow*, a *Central*, and a *Shadow* which is almoſt a *Denſe Shadow*, which a ray coming from the uppermoſt edge of the *Sun* doth terminate; a *Central Shadow* is that which is intercepted between the ray of the *Superior edge*, and the *Central ray*: the *penumbra* is that which is intercepted between the *Central ray*, and the ray of the lower.

Propoſition II.

The Inhabitants of the places of the Earth *which-ly in the* Tropick *of* Cancer *and* Capricorn *are* Heteroſcij.

The people in the *Tropicks* are *Hitteroſcij*.

For when the *Sun* is in the firſt *degree* of *Cancer*; that very day the bodies erected in any point of the *Tropick* of *Cancer*, do abſorbe the *Shadow* of the *Sun* poſſeſſing their *Meridian*, becauſe that then the *Sun* perpendicularly from his *Vertex* hangeth over the *Horizon*; and therefore illuminateth all parts of it: neither doth any ray from the erect *Opac* hinder like this, which perpendicularly falleth on the *plain* of the *Horizon*; and therefore lyeth in the very *Opac*.

But in other days of the year, becauſe the *Sun* declineth from the *Vertex* of the places of the *Tropick* towards the *South*; therefore the *Shadow* is caſt in the *Meridies* towards the *North*, never towards the *South*. On the contrary in the places of the *Tropick* of *Capricorn*, every day it is caſt towards the *South*, (except on one day, in which there will be no *Shadow*;) never towards the *North*.

Propo-

Propoſition III.

The Inhabitants of the Torrid Zone *are* Amphiſcii.

The Inhabitans of the Torrid Zone, are called *Amphiſcii*.

Let any place of the *Torrid Zone* be taken in the Globe, and let it be brought to the *Meridian*, and let the Parallel of the *Latitude*, which ſhall cut the *Ecliptick* in two points, be deſcribed by Chalk applied. When therefore the *Sun* ſhall be in theſe points of the *Ecliptick*, he ſhall deſcribe by his circumvolution a *Parallel*, which ſhall directly hang over the Parallel deſcribed; and therefore on thoſe two days, in which he obtaineth thoſe points of the *Ecliptick*, in the aſſumed place, and in all ſcituated in the deſcribed *Parallel*, he ſhall be vertical in the *Meridies*, and illuſtrate all the places of the Horizon. And therefore no *ſhadow* ſhall be caſt on theſe two days; and the Inhabitants ſhall be *Amphiſcii*, without any ſhadow: but on the other days of the year they ſhall not be ſo, but the *Meridian ſhadow* ſhall either be caſt to the North, or to the South; to the North, whilſt the *Sun* moveth in that part of the *Ecliptick*, which lie in thoſe two points before noted towards the South. On the contrary, to the South, whilſt the *Sun* moveth in that part of the *Ecliptick*, which is ſcituated from thoſe two points towards the North.

Propoſition IV.

The Inhabitants of the Temperate Zone, *are* Heteroſcii.

The Inhabitants of the Temperate zone, are called *Hitteroſcii*.

For becauſe the *Sun* in all thoſe days of the year, in the *Meridies*, is moved from the places of the *North Temperate Zone* towards that quarter, to wit, the *South*; and on the contrary, from the places of the *South Temperate Zone*, towards the *North*; it followeth from the firſt *Propoſition*, that the *Meridian ſhadow* of the places of the *North Temperate Zone*, bend to the ſame quarter all the days of the year, (*viz.* the *North*:) on the contrary, to the *South*, in the places of the *South Temperate Zone*.

Propoſition V.

The Inhabitants of the Frigid Zones, *are* Periſcii.

The Inhabitants of the Frigid Zone, are called *Periſcii*.

For by reaſon, that on ſome days of the year the *Sun* ſetteth not in theſe places, but moveth round about the *Horizon*; it is alſo neceſſary that the *ſhadow* ſhould be carried round into all quarters; and the *Sun* being in the ſuperiour Semicircle of the *Meridian*, the *ſhadow* is caſt towards the *North*; and when the *Sun* is in the inferiour Semicircle, the *ſhadow* is carried towards the *Southern quarter*.

Propoſition VI.

A place of the Torrid Zone *being given, to find the days of the year, in which the Inhabitants of that place ſhall be without any ſhadow; and in what days the ſhadows are carried to the North, and in what to the South.*

Let the days of the year, in which the *Sun* becometh vertical to the place given, be found; thoſe ſhall be the days in which the Inhabitants of that place ſhall be without a ſhadow. For this, uſe the Mode in the third *Propoſition*.

Proposition VII.

The day of the year being given, to find the places of the Earth in the Globe, whose Inhabitants are Amphiscii *that day.*

Let the places be found, in which the *Sun* becometh vertical on the day of the year given, (according to the *9th Proposition* in the *24th Chapter*,) these shall be the places sought.

Proposition VIII.

A place of the Frigid Zone *being given, to find the days of the year, in which the Inhabitants of it are* Periscii.

Let the days of the year be found, in which the *Sun* setteth not in the given place, (according to the 10 *Proposition* of the *24th Chapter*,) they are the days sought.

Proposition IX.

The day of the year being given, to find out the places of the Frigid Zone, *the Inhabitants of which are* Periscii *that day, so that this day be the first day.*

Let those places of the *Frigid Zone* be found, in which the *Sun* in the day given doth not first begin to set; they shall be the places sought for.

Proposition X.

In places scituated in the Æquator, *the* Meridian shadow *falleth half the year towards the North, the other half towards the South, and in the days of the* Equinoxes, *the Inhabitants are* Amphiscii.

For because the *Sun* in one half of the year recedeth from the *Æquator* towards the South, the other half, towards the North; the shadows are carried to the quarter opposite to the quarter of the *Sun*, and thence it cometh to pass, that in one half year the *Meridian shadows* are carried to the North, and the other half to the South.

Proposition XI.

To place a Plain above the Horizontal Plain *of our place, in which the erected* Styles *perpendicular may be the* Amphiscii *for some days of the year; on some days of the year the* Meridian shadows *may be carried to the North, on others, to the South; that is, in which the* Meridian shadows *may be so cast, as in some given place of the* Torrid Zone.

Let the *Latitude* of the place given of the *Torrid Zone* be taken from the *Latitude* of our place, if the *Latitudes* be cognominal; but if they be of a diverse species, let both the *Latitudes* be added, and the remaining *degrees* kept; then in the *Horizontal Plain* the *Meridian line* being found, and also the *line* of the *Æquator*, which is perpendicular to the *Meridian line*, let some Plain be erected above the line of the *Æquator*, that it may incline above the Horizon so many degrees as were kept before. The *Styles* or *Pins* erected in this Plain shall cast such shadows, as if they were erected in the places of the *Torrid Zone*.

Pro-

Proposition XII.

In the places seated in the Æquator, *the shadow of the* Style *perpendicularly erected in the whole days of the* Æquinoxes, *remaineth in one right Line, whether before Noon it be continually cast into one quarter of the West, or after Noon, into a quarter of the East; now in the other days of the year the shadow is carried round into the Semicircle.*

Of Places seated without the Æquator.

In Places scituated without the *Æquator* in the *Torrid Zone*, whilst the *Sun* is moved in part of the *Ecliptick*, which lieth between the *Vertex* of any place, and the vicine *Tropick*, the *shadow* wandreth through the lesser part of the subject Superficies in a *Semicircle*. In the Places of the *Temperate Zones*, whilst the *Sun* is moved in a more remote *Circle* from those of the *Zodiack*, the shadows steal by the lesser Superficies in a *Semicircle*, and the greater, whilst the *Sun* runneth through the nearer *Semicircle* of the *Zodiack*. In the days of the *Æquinoxes*, the *shadow* of an erected *Style* is carried round in a *Semicircle* in all the places of the *Earth*, except the *Æquator* and the *Pole*.

These are all rendred perspicuous, partly from the sight of the Globe, and partly from the *declination* of the *Diagrams*.

Proposition XIII.

In the places of the Torrid Zone, *whilst the* Sun *is in the Arch of the Ecliptick, between the vicine Tropick and the Parallels of the place, in those days the shadow of the erected Style twice returneth back, and goeth over the Lines left behind,* viz. *once before Noon, and once after Noon. The* Sun *also in these days will seem to inflect his course.*

Of the shadow of the *Sun* in the places of the *Torrid Zone*.

Take any place of the *Torrid Zone* in the Globe, and let the *Pole* be elevated according to his *Latitude*, and let the Parallel of the place be described, which shall cut the *Ecliptick* in two points; I say, that whilst the *Sun* moveth in the intercepted Arch of the *Ecliptick*, between this *Parallel* and the vicine *Tropick*, in those days the *Sun* will seem to be twice retrograde, and go over the *lines* left behind. Let any of the Points of that Arch be taken, and let the Parallel of the *Sun* be described, *viz.* which the *Sun* being in that point describeth by *Diurnal circumvolution:* For Example, take the first *degree* of *Cancer* or *Capricorn*, and another of their *Tropicks*, for so there will be no need of the description of a *Parallel*, until it come to the *point* in which the *Quadrant* toucheth the *Parallel*; the *Sun* being in this Seat, or in this quarter, will seem to bend his course towards the *Vertex* of the place, and the *shadow* shall begin to be retrograde from the *line* of the *Æquator* towards the *Meridian line*. After the same manner, if that you apply the *Quadrant* to the *Occidental part* of the *Parallel*, you shall see in that point in which the *Quadrant* toucheth the *Parallel*, that the *Sun* goeth to the quarters he hath left, and setteth in that quarter in which some hours before he was.

Corollary. Therefore it is not against Nature, that the *shadow* should go back on *Sun-Dials*; but then it is miraculous, if that it be done suddenly in a noted space; also if it repeateth the *lineary hours*, *viz.* if that the *Style* be not perpendicular, but parallel to the *Mundane Axeltree:* yea, although it be *perpendicular*, yet do not the *lines* of the *shadow* it self shew the *hours*, but the *lines* of the *shadows* of the *Axis* of the *World*, part of which is concealed in the mind on the *Dial*, if that it be wanting.

Proposition XIV.

A place being given in the Torrid Zone, *and one day of those in which the Sun seemeth to bend his course, and the shadow of the Style seemeth to go back; to find the quarter in which the Sun then shall be, and the hour when it shall be.*

Let the *Pole* be elevated for the *Latitude* of the place given, and let the place of the *Sun* be found at the given day, and let it be noted in the *Ecliptick*, and let the *Parallel* be described with Chalk, which the *Sun* being in that point describeth. Let the *Quadrant* be applied to the *Vertex*, and so turned about until it touch the described *Parallel*: so the extremity of the *Quadrant* in the *Horizon*, shall shew the place sought for. Now that the hour may be found, let that point of the *Parallel* be noted in which the contact is made; let the *Index* be placed at the twelfth hour of the *Cycle*, and let the noted point of the *Parallel* be turned to the *Meridian*. The *Index* will shew how many hours before, and how many hours after Noon the regress beginneth.

Proposition XV.

The Longitude of the shadows decreaseth, the Altitude of the Sun *increasing; and on the contrary, the Altitude of the* Sun *decreasing, the shadow increaseth.*

They decrease from the East to the *Meridies*; and from the *Meridies* to the setting, the Shadows again increase.

For the *Sun* is more near the *vertex* of the *Style*, by how much the more he is elevated above the *Horizon*; therefore the ray of the *Sun* terminating the *shadow*, becometh also more nigh the *style*, and on that account the *shadow* becometh lesser. Moreover, the *Sun* hath the greatest Altitude in the *Meridies*; therefore the Longitude of the *shadow* then shall be lesser. But in the rising and setting of the *Sun* there is no Altitude; therefore the Longitude of the *shadow* shall be infinite.

Proposition XVI.

The Longitude of the Style, and the shadow being given, to find the Altitude of the Sun above the Horizon, *and thence the hour of the day; if that moreover the Latitude of the place, and day of the year be known.*

The Longitude of the *Style*, the *shadow*, and the *ray* terminating the shadow, makes a *right Angled Triangle*: therefore let the proportion be instituted according to the 15*th Proposition* of the *second Chapter*. As the Longitude of the *shadow* is to the Longitude of the *style*: so are the whole signs to the *Tangent* of the *Angle*, which sheweth the *Altitude* of the *Sun*.

See Propos. 3. Chap. 29.

From this Altitude and Latitude of the place, and day of the year, shall the *hour* of the *day* be found out.

Proposition XVII.

The Semidiameter of the Sun *and Earth being given, and the distance of the* Sun *from the Earth, to find out the Longitude of the shadow, which the whole Earth casteth towards Heaven.*

Of the Longitude of the Shadow.

The *shadow* of the Earth is Conical, as the *Opticks* demonstrate, and is easily shewed by a *Diagram*: therefore the distance of the *vertex* of this Cone, which causeth the Eclipse of the *Moon*, from the *Earth*, is sought; that is found by this *Proposition*: for as the distance of the *Semidiameters* of the *Sun*

Sun and *Earth* are to the distance given, so is the *Semidiameter* of the Earth to the *Longitude* of the *shadow* of the *Earth*, or to the Axis of the *shady Cone*.

Proposition XVIII.

The distance of the Moon *from the* Earth, *and the Longitude of the* Shadow *of the Earth being given, to find how great a part of the* Moon *is obscured; how great the Eclipse will be, if that the* Moon *remain in the Ecliptick.*

Of the Eclipse of the *Moon*.

Let the *Rule* of *Three* be instituted according to this proportion; As the Longitude of the *shadow* is to the excess of this Longitude above the distance of the *Moon*: so the *Semidiameter* of the Earth is to that *shady Cone* of the Earth, in that part where the *Moon* entred it.

Furthermore; As the distance of the *Moon* is to the found out *Semidiameter* of the *shadow*: so are the whole signs of the *Canon* to the *Tangent* of the *Angle* of *sight*, which the half diameter of *shadow* subtendeth to our eye; which, if it be doubled, the *Angle* of *sight* is accounted for the whole diameter of the *shadow*. With this *Angle*, let the *Angle* of *sight*, or the apparent *Semidiameter* of the *Moon*, which is in opposition of the *Sun*, or in time of *Eclipse*, be compared.

From this *Comparation* the quantity of the obscurity will be made manifest, which if you desire to have in *Digits*, institute a *Rule* of *Proportion* after this manner: As the diameter of the *Moon* is to twelve *Digits*, so is the apparent diameter of the *shadow*, or *Angle* of *sight*, to the *Ecliptick Digits*.

Proposition XIX.

By how much the places of the Earth, every day are more remote from the Æquator, *or from the Parallel of the* Sun; *by so much the more, both the* Meridian shadow, *as well as the* shadows *of the rest of the hours, are longer.*

For because the *Sun* is more remote from the *Vertex* of those places, therefore also the *rays* of the *Sun* terminating the *shadow*, are more remote from the *Style*; and therefore the *shadow* is so much the longer extended.

Proposition XX.

If that the Style be placed in any plain after such a Mode, that it becomes part of the Axis of the World, or that it be Parallel to that Axis; the shadow of that Style shall fall on a certain hour, on the very line of that Plain, in which this Line is cut by the great Horary Circle, whether of declination, or from the Meridian, in which the Sun is at that hour.

A moment, or small space of an hour.

For the *shadow* of the *Axis* of the World, or the *style* so placed, falleth on the *plain* of the *Horary* or *Meridian Circle*, in which the *Sun* is at that moment of time; for neither can it fall beyond the Plain, seeing that the *Sun*, the *Opac body*, and the *Shadow* are in one Plain, upon which the *Style* is placed. Wherefore seeing this *Style* is upon this Plain, as also on the Plain of the *Meridian*, which the *Sun* keepeth for a moment; thence it followeth, that this *shadow* may fall on the common Section of this *Plain*, or the Plain of the *Meridian*, or of the *Horary Circle*: For if any *Line* be in two or more Plains, it shall be in the common Section of those *Plains*.

Pro-

Proposition XXI.

To describe the Æquinoctial *Night-Dial.*

Æquinoctial Night-Dial.

A Plain of *Wood*, *Paper*, *Braſs*, or other Mettal, muſt be erected above the *Horizon*, ſo many *degrees* as the *Æquator* is elevated above the *Horizon*; or ſo many *degrees* as are in the Complement of the *Latitude* of the place.

Before it be erected, it is neceſſary to draw the Lines of the *Scioterick*; therefore let what point you pleaſe be taken in that *Plain*, and let the *Periphery* of the Circle be deſcribed from it, as from a *Center*. Let a line Parallel to the *Horizon* be drawn through that *Center*; or let the Line be Parallel to the common Section of the *Æquator* and the *Horizon*, which ſhall be the Line of the *ſhadow* of the hour of ſix in the Evening, and ſix in the Morning. Let a Line perpendicular to this be drawn from the *Center*, which ſhall be the *ſhadow* of the twelfth hour: then let both the *Quadrants* be divided into three parts, and every one of thoſe three, into two, ſo that the ſix Arches may be in every one of them, whereof every one ſhall be of fifteen *degrees*; and let them be drawn from the *Center* to the terms or bounds of the Arches of the right Line, theſe ſhall be the Lines of the *ſhadows* for the beginnings of the remaining hours, which fall between *twelve* and *ſix*, whoſe number and order muſt be ſet down at the extremities of the Lines drawn; the ſame Arches of fifteen *degrees* beneath the *Horizontal line* muſt be taken in the deſcribed *Periphery* for the hours before *ſix* in the Morning, and *ſix* in the Evening; and the Lines of the *ſhadows* muſt be drawn; the *perpendicular Style* muſt alſo be erected from the *Center*.

Furthermore, In the *Horizontal plain* (if that the Plain of the *Scioterick* be not yet erected) the *Meridian line* muſt be found, and the Line of the *Æquinoctial riſing* and *ſetting*; and ſo it muſt be placed on or above this Plain of the *Scioterick*, that the *Horizontal line* of the *Scioterick* may be parallel to this Line of the *riſing* and *ſetting*: ſo the *ſhadow* of the *Style* ſhall ſhew the beginning of the hours at every *day* of the year.

But becauſe the *Sun* only illuſtrateth this one *Superficies* of this *Plain* half a year, and the other another half year, therefore in both the *Superficies* a *Scioterick* muſt be made after the appointed Mode laid down before; that on one ſide of it, in the time of *Summer* and *Spring*; in the other, in the time of *Autumn*, the *hours* may be known by the benefit of the *Shadows*.

The Lines of the *Circle*, which ſhew the place of the *Sun* in the *Ecliptick*, or the entrance of the *Sun* into the twelve *Signs* of the *Zodiack*, and which do repreſent the *Parallels*, which the *Sun* deſcribeth in the Heaven by his *circumvolution*, may eaſily be drawn on this *Æquinoctial Scioterick*. For let a certain Magnitude of the *Style* be taken, and let it be accurately divided into *Ten parts*, and *one* of theſe Ten into *ten* other parts, that the whole *Line* may be conceived to be cut into an *hundred particles*: then from a Table of *Declinations*, let the Declinations of the *Sun* be excepted, the *fifth*, the *tenth*, the *fifteenth*, the *twentieth*, the *twenty fifth*, the *thirtieth degrees* of *Aries*; or the *firſt*, the *fifteenth degrees* of *Taurus*; the *firſt*, the *fifteenth degrees* of *Taurus*; the *firſt*, the *fifteenth degrees* of *Gemini*; the *firſt degree* of *Cancer*: and let the *Tangents* be taken from the *Mathematical Canon*.

Moreover, from the *Center* of the *Horologe* in the interval of the *Tangent* of Complement of the *fifth degree* of *Aries*, let the *Periphery* of the *Circle* be deſcribed; this will note the entrance of the *Sun* into the *fifth degree* of *Aries*, and the *twenty fifth* of *Virgo*, and the Parallel of the *Sun* for that day, *viz.* when the diurnal extremity of the *ſhadow*, by its *circumvolution*, ſhall fall on this deſcribed *Periphery*, it ſhall be a ſign, that the *Sun* is in the *fifth degree* of *Aries*, or the *twenty fifth* of *Virgo*. After the ſame Mode, let the *Peripheries* be deſcribed in the interval of the *Complement* of the *tenth* and the *twentieth degrees* of *Aries*, the *firſt* and the *fifteenth* of *Taurus*; the *firſt* and *the fifteenth* of *Gemini*, and the *firſt degree* of *Cancer*; thoſe will ſhew the *Parallels* of the *Sun* in thoſe points, and alſo in the points of the *20th degree* of *Virgo*, the *10th* and the *firſt* of *Virgo*; the *15th* of *Leo* and the *firſt* of *Leo*; and the *15th degree* of *Cancer*.

After the ſame Mode on the other ſide of the *Scioterick*, let the *Peripheries* be deſcribed for the *Parallels* of the *Sun* in the *firſt degree* of *Libra*, and the *25th* of *Piſces*; in the *10th* of *Libra*, and the *20th* of *Piſces*; in the *15th* of *Libra*, and the *15th* of *Piſces*; in the *firſt* of *Scorpio*, and the *firſt* of *Piſces*; in the *15th* of *Scorpio*, and the *15th* of *Aquarius*; and in the *firſt degree* of *Sagittarius*, and the *firſt* of *Aquarius*.

Unto every one of theſe *Peripheries*, the Characters of the Signs of the *Zodiack* muſt be aſcribed.

Propoſition XXII.

To deſcribe an Horizontal Scioterick, *or an* Horizontal Plain.

An Horizontal Scioterick, or Horizontal Plain, deſcribed.

By the Globe. Let the *Pole* and *Meridian* be elevated for the Latitude of the place, which *Meridian* is more conſpicuous than the other *lines* in the *Superficies*, both for colour and magnitude: let it be brought under the *Brazen Meridian*; let the *Index* be placed at the hour of twelve; let the Globe be turned round, until the *Index* ſhew the hour One or Eleven, or until 15 *degrees* of the *Æquator* do paſs the *Brazen Meridian*. In this ſcituation of the Globe, let the *degrees* intercepted between the *Brazen Meridian* and the *Meridian* of the Globe be numbred on the *Wooden Horizon*, and let this hour be noted for the hour of *One* after noon, and *Eleven* before noon.

Then let the Globe be turned again, until the *Index* ſhew the hour 11 or 10, and let the *degree* intercepted between thoſe two *Meridians*, the *Brazen* one and that aſſumed, be noted for the *10th* or *11th* hour. After the ſame manner, let it be done for the hours 9 and 3, for 8 and 4, for 7 and 5, for 6 and 6, (but we ſhall not want this hour) for 5 and 7, for 4 and 8, for 3 and 9. Theſe *degrees* being thus noted for every aſcribed hour, let the *Meridian line* be found on the *Horizontal Plain*; and for any point of this *line*, let the *periphery* of the *Circle* be deſcribed as from a *Center*, and let it be drawn perpendicularly from the *Center* to the ſame, on either ſide. This ſhall be the *line* of the *ſhadow* at the hour 6 before noon, and 6 after noon. The *Meridian line* is the *line* of the *ſhadow* of the hour 12. In the deſcribed *periphery*, let the *Arches* before noted be cut of, beginning from the *Meridian line* towards the *line* of the hour 6, before and after noon. Firſt, the *Arch* noted for 11 and 1, then for the hour 10 and 2, for 9 and 3, for 8 and 4, &c. The *Arches* thus cut off, let the *lines* be drawn from the *Center* to thoſe bounds; theſe ſhall be the *lines* of the *ſhadows* in the beginning and end of the other hours.

But the *Style* muſt be ſo elevated from the Center of the *Horologe*, above the *Meridian line*, that the *Angle* which it maketh with it may be equal to the *Latitude* of the place, or elevation of the *Pole*. But it is more commodious to make ſome *Triangle*, whoſe *Angle* at the *Baſis* is equal to the *Latitude* of the place. If the *declination* be made on Paper, let the *line* be drawn from the *Center*, which from the *periphery* may take an *Arch* equal to the *Latitude* of the place; (the *Numeration* being from the *Meridian line*,) and let the *Triangle* be cut out to be placed above the *Meridian line*; ſo the *ſhadow* will ſhew the *hours*. The making of this *Scioterick*, is eaſie without a Globe.

Pro-

Proposition XXIII.

To describe a Scioterick *on a vertical Plain, which may directly regard the East and West* Æquinoctial.

A *Scioterick*, what.

The making of this is perfected after the same Mode, which we used in the *Horizontal*, if that the *Pole* be not elevated according to the *Latitude* of the place, but according to the *Complement* of it; and then the *Style* also be elevated above the *Meridian*, according to this *Complement*: but this is better learned by Instruction, than long Precepts.

Proposition XXIV.

To make a Scioterick *in our Horizontal, or other Plain, which shall shew the hours of other places, although remote from ours.*

This may be done on our *Scioterick*, which was made to shew the hours of our place. First consider, whether the place given lie *East* or *West* from ours; if *Eastwards*, the 12*th* hour must be reckoned there, before in our place; if *Westwards*, more later. Then let our place be brought to the *Meridian*, the *Index* to the hour 12; and let the Globe be turned until the other place come to the *Meridian*; the *Index* will shew what *hour* is in this place, when it is 12 in ours. From hence it is easie to collect the hours of that place, which may agree with the 1, 2, 3, 4; also 11, 10, 9, 8, &c. of ours, which then must be ascribed to them. But this may be done more elegantly without the Globe, according to the Mode that the *Horizontals* are composed.

Proposition XXV.

To elevate a Plain above the Horizon *of our place, and in that Plain to make a* Scioterick, *in which the shadows of the Hours may seem to go backwards, as in the places of the* Torrid Zone.

Because the Elevation of the *Plain* is left to our choice, therefore we shall chuse such an one as is commodious to our purpose: For Example, we shall so place the Plain above our *Horizon*, or above the *Æquinoctial line*, East and West, that the *Axis* of the World, or *Pole*, may be elevated ten *degrees* above it. So the shadow shall begin to be retrograde, the *Sun* being entred into the 26*th degree* of *Aries*: and it shall so do, until the *Sun* comes to the 4*th degree* of *Virgo*.

Therefore let the *Plain* be so constituted, and the *Horologue* so made, that it may be in the place of the *Latitude* of 52, the *Plain* shall be elevated 42 *degrees*; so the *Pole* shall be elevated above that 10 *degrees*. In this *Plain* an *Horizontal Scioterick* may be made for the Elevation of the *Pole* 10 *degrees*. Where, when the *lines* of the *shadows* are brought from the *Center* of the *Horologue*, and extended far enough, let their parts about the *Center* be blotted out, and the *Center* also, and let a *perpendicular Style* be erected in any point of the Altitude of the *Meridian line*, such as shall exhibit a *Gnomonical Triangle*; and the extremity of this *Style*, by its shadow falling on the *lines* of the *shadows*, shall shew the *hours*, and also the *shadow* shall seem to be retrograde on those days.

See Propos. 22.

Also by the assistance of the *Terrestrial Globe*, *Meridional*, *Polary*, and *Inclining Sciotericks* of all sorts may be described. But because this matter appertaineth to another Discipline, *viz.* to *Dialling*, therefore I think it unnecessary to treat of all these here.

CHAP.

CHAP. XXVIII.

Of the Comparison of the Celestial Affections in divers places of the Earth.

FRom the consideration of the agreement and difference of the *Celestial Appearances*, in the divers places of the Earth, proceedeth the denomination of the Inhabitants, (which some have mistaken for the division) by which some are said to be *Antœci*, others *Periœci*, and others *Antipodes*.

See Scheme.

Of the denomination of the Inhabitants of the Earth.

Those are said to be *Antœci*, of the Inhabitants of two places, which lye in the same *Semicircle* of the same *Meridian*, but from a divers quarter of the *Æquator*, to wit, one towards the North, and another towards the South; but yet so, that they are equally distant from the *Æquator*.

Periœci, are the Inhabitants of two places, which lye in the same *Parallel*, and in divers *Semicircles* of the same *Meridian*. Sometimes the word is taken for all the Inhabitants of any one *Climate*; but to avoid confusion, we shall abstain from the use of it.

Antipodes, are the Inhabitants of two places, which *diametrically* are opposed one to the other.

Note, That these three words are so taken for the most part, that they denote the Inhabitants of both places, which are compared as we defined them: but yet sometimes, when any certain place is adjoyned to them, they only denote the other place; as when we say, the *Periœci*, or *Antipodes* of this or that place.

Proposition I.

Those who live in the same Semicircle of the same Meridian, they have also the same Meridies, *or* 12 *hours; and also reckon together all the other hours.*

For the *Meridies* is defined by the existency or appulse of the *Sun* to the *Meridian*, because therefore those places of the Earth, which inhabit in the same *Meridian* of the Earth, have also the same *Meridian* of the Heaven; thence it is manifest, that the *Sun* in the same *Meridian* to those that inhabit it, maketh the *Meridies* and the 12*th hour* to them all at one time. Moreover an *hour* is defined to be that 24*th* part of that time, which intercedeth between two vicine *Noons*, or *appulses* of the Sun to the same *Semicircle* of the *Meridian*. Because therefore that it is the same time which intercedeth between the two *Meridies* of the places of the same *Meridian*; therefore also the 24*th* part of the same shall be equal, and the same in all; and on that account, they shall together number all their hours from the *Meridies*.

Proposition II.

They which dwell in the divers Hemispheres of the Earth, which the Æquator *maketh or distinguisheth; or those who live in the divers parts or quarters of the* Æquator; *they, I say, have contrary Seasons of the year at the same time, and the same Seasons in a different time of the year: so that in one Hemisphere it is Winter, when as in the other it is Summer; and when the Spring is in that, Autumn is in this.*

For the *Summer* beginneth in every place according to the *Celestial* course, *viz.* the motion of the *Sun*, when he obtaineth a small distance from the *Vertex* of the place: the *Winter*, when a great distance. Now because the

Of the different Seasons which the *Æquator* maketh.

Sun moveth from one *Hemiſphere* to the other, thence it cometh to paſs, that when it draweth near the places of one *Hemiſphere*, it more and more departeth from the places of the other; and ſo the *Summer* of one *Hemiſphere* agreeth in time, with the *Winter* of another; and the *Spring* of one with the *Autumn* of another.

See Chap. 26. In the places of the *Torrid Zone*, the viciſſitude of the Seaſons hath ſomething peculiar, of which we have treated at large in the *26th Chapter*.

Propoſition III.

Thoſe who live in the Northern Hemiſphere of the Earth, to them, when they turn their faces towards the Æquator, *the East is on the left hand, and the Weſt on the right; the South before them, and the North behind them. Thoſe who inhabit the Southern Hemiſphere of the Earth, they turning their faces to the* Æquator, *the Stars riſe on their right hand, and ſet on their left.*

Of thoſe who live under the Æquator. Thoſe who live under the very *Æquator*, if they turn their faces towards the *Northern Pole*, they then have the *Eaſt* on their right hand, and the *Weſt* on their left; but if they turn their faces towards the *Southern Pole*, it is contrariwiſe.

Thoſe who live in the *Northern Hemiſphere*, to them, their faces being turned to the *Æquator*, the *Sun* going in the *Northern Semicircle* of the *Zodiack*, will ſeem to riſe and ſet behind them; but perambulating the other *Semicircle*, he will ſeem before them. The contrary happeneth in the *Northern Hemiſphere*: and the contrary will alſo be obſerved, if you turn your faces towards the *Poles*.

Theſe are manifeſt from the conſideration of his *circumvolution*, and may be illuſtrated on the *Globe*; but *Mariners*, and others, unskilful of the *Celeſtial motions* are wont to wonder at it, when they ſayl from our *Hemiſphere* into the *Southern Hemiſphere*.

Propoſition IV.

The Celeſtial Affections of the Antœci *compared amongſt themſelves, are thus.*

See Propoſ. 1. 1. They have the ſame *Meridies*, the ſame *Midnight*, and reckon all their hours together, as is manifeſt from the firſt *Propoſition* of this *Chapter*.

2. They have contrary Seaſons of the year at the ſame time; for when it is *Spring* in one place, it is *Autumn* in another; when that hath *Summer*, this Propoſition 2. hath *Winter*, as is manifeſt from the ſecond *Propoſition* of this *Chapter*.

3. The *days* of one place are equal to the *nights* of the other; and the *days* of this, to the *nights* of the former.

4. When the *days* of one place increaſe to the longeſt day, in the mean while the *days* of the other decreaſe, even to the ſhorteſt: for they have oppoſite equal *days* in their Kalendar. For Example; the day of one place at the *twentieth* of *April*, is equal to the *twentieth* of *October* in the other place.

5. On the days of the *Æquinoctial*, the *Sun* riſeth and ſetteth together to them; but on other days ſooner to the one than the other: alſo in thoſe two days the *Sun* hath the ſame altitude above the Horizon of the *Antœci*, at every moment of time; but on other days a different *Altitude*.

6. To thoſe that turn their faces one towards another, or thoſe who regard the *Æquator*, to one the *Sun* ſhall ſeem to riſe on the right hand, and ſet on the left; and to the other, to riſe and ſet contrary. After the ſame Mode, all the *Stars* ſhall riſe to one on the right hand, and to the other on the left.

7. When

7. When the *Sun* riſeth and ſetteth behind to the one, he riſeth and ſetteth before to the other; contrariwiſe to this on the left hand, when to that on the right.

8. They have the divers *Poles* elevated by an equal Elevation.

9. The *Stars* appearing perpetually to one place, or not ſetting, never ariſe to the other place, but always remain depreſſed beneath the *Horizon*; contrariwiſe, thoſe which never ſet to this place, never riſe to that.

Theſe are all manifeſt from the Globe.

Propoſition V.

Thoſe which inhabit in the Æquator, *have no* Antœci; *but the* Periœci *of thoſe are the ſame with the* Antipodes *of theſe. The Poles of the Earth have no* Periœci, *for they are mutually one to the other* Antœci, *and* Antipodes.

The truth of this *Propoſition* is evident from the Definitions of the *Antœci*, *Periœci*, and *Antipodes*, and therefore needs no probation.

Propoſition VI.

A place being given in the Globe, to exhibit the place of the Antœci, Periœci, *and* Antipodes *of the ſame.*

Let the place be brought to the *Brazen Meridian*, and as many *degrees* as are intercepted between this and the *Æquator*, let ſo many be numbred from one part of the *Æquator*: the term of the Numeration ſhall be the place of the *Antœci*.

Then let the *Index* be applied to the *12th hour* of the *Cycle*, and let the *point* of the *Meridian* be noted, which hangeth over the place given, alſo that which hangeth over the place of the *Antœci*; this being done, let the Globe be turned round, until the *Index* ſhall ſhew the other 12 *hours*: ſo the *point* of the Globe, which is ſubjected to the noted *point* of the *Meridian* of the place given, ſhall be the place of the *Periœci*; and the *point* of the Globe, ſubjected to the other noted *point* of the *Meridian*, ſhall be the place of the *Antipodes*.

Propoſition VII.

Thoſe who live in the ſame Parallel of the Earth, have every day, and every night, equal: every one of the Stars *alſo remaineth an equal time above their Horizons; the ſame* Stars *never ſet, the ſame* Stars *never riſe: the* Sun *every day, and all the* Stars *alſo, riſe and ſet to them in the ſame quarter; and in the ſame hour alſo the* Stars *are equally elevated above the Horizon, or depreſſed beneath it. They have the ſame Pole equally elevated; their faces being turned to the* Æquator *or the ſame Pole, the* Stars *riſe to them from the ſame ſide, and ſet on the ſame ſide: they have the ſame ſeaſons of the year,* Spring, Summer, Autumn, Winter *together, and at the ſame time, excepting the ſingular properties of ſome places.*

Theſe are manifeſt from the very conſideration of the *motions* of the *Stars*, and ſcituation of the Places of the Earth. In the Globe, if that one certain *Parallel* be taken, and the *Pole* be elevated near its *Latitude* or diſtance from the *Æquator*, the *Wooden Horizon* of all places ſhall be the *Horizon* of that *Parallel*, *viz.* if that every place be brought to the *Meridian*; and then will be manifeſt what this *Propoſition* containeth.

Proposition VIII.

The Celestial Affections of the Periœci, *compared one with another, are thus:*

The Celestial Affections of the *Periœci* compared together.

1. They have all those things common, which we have related in the preceding *Proposition*, concerning the Inhabitants of one and the same *Parallel*.
2. They reckon contrary *hours* of the day in reality, but yet the same in name, *viz.* when in one place it is Noon, and the 12*th Meridian hour*, then in the other it is Midnight, and the 12*th* hour of Midnight: and the Inhabitants of this, number 1, 2, 3 from *Midnight*, whilst they number 1, 2, 3 from *Midnoon*.
3. On the days of the *Æquinoxes* the *Sun* setteth to one place, whilst it riseth to another, and therefore the time of the *day* of one place, is the *night* of another; but on other *days* of the year, *viz.* on the half year, in which the *Sun* runneth through the vicine *Semicircle* of those places of the *Zodiack*, that is, in the *Spring* and *Summer*, it first riseth to one place before he setteth to another; and therefore in some *hours*, or some parts of an hour, they have both the *day* and the *night* conspicuous together, *viz.* whilst the *Sun* tendeth towards the setting to one place, he beginneth to ascend towards the *Meridian* to the other, having now emerged above the *Horizon:* But in the other half of the year, *Autumn* and *Winter*, in which the *Sun* runneth the more remote Semicircle of the *Zodiack*, he first setteth to one place before he riseth to another, (*viz.* the *Periœci*;) and therefore they have no part of the *day*, but some part of the *night* common, and the *Sun* for some hours, or for some parts of the hours, depressed beneath the *Horizon*; so that to one place it is the end of the *night*, to the other, the beginning.
4. After the same Mode, those *Stars* which decline from the *Æquator*, towards the *Pole* elevated to the *Periœci*, may be seen for some hours, or for some parts of hours, at once, *viz.* before they are set to one place, they are risen to another; and on the contrary, before they are risen to that, they are not set to this; and in this, for so much the longer time, by how much the *Star* is more remote from the *Æquator* towards the *Pole* elevated. On the contrary, they never see those *Stars* together, which decline from the *Æquator* towards the *Pole*, depressed to the *Periœci*; but they first set to one place, before they arise to another; and therefore for some time, or for some hours, or parts of the *hours* of the day, they are conspicuous to neither of the *Periœci*; and for so much the longer time, by how much the *Star* is more near the *Pole*; and those *Stars*, which remain continually to the *Antœci* above the *Horizon*, are perpetually obscured to the *Periœci*.
5. What place of the Earth, one of the *Periœci* hath in the setting *Æquinoctial*, or to the *West*; the same the other of the *Periœci*, being about to shew, directs the digit to the *Oriental quarter*, whereof one part is common to the *Antœci*, the rest to the *Periœci*.

Proposition IX.

The Celestial Affections of the Antipodes, *compared one with another, are thus:*

The Celestial Affections of the *Antipodes*.

1. In all the *days* of the year, the *Sun* and the *Stars* rise to one place, whilst they set to another; for they have the same *Horizon*, although a different face.
2. The *day* of one, is the *night* of another.
3. They have opposite equal *days* of the year, as also *nights*; so that the longest *day* of the one place, is the shortest of the other.
4. They have contrary *seasons* of the *year* at the same time, and the same *seasons* in an opposite time; *viz.* some have *Spring*, whilst the other hath *Autumn*; the one *Summer*, whilst the other hath *Winter*; and contrariwise.
5. They

5. They have the different *Poles* elevated by an equal Elevation, they are equally distant from the *Æquator*; but thao from the diverse quarters of it: they are seated in the same *Meridian*, but that is in its different *Semicircles*.
6. They reckon indeed the contrary hours of the *day*, but the same in name, *viz.* it is *Noon* to one place, whilst it is *Midnight* to the other.
7. What *Stars* continually appear to one place, or do remain above the *Horizon*, they perpetually remain beneath the *Horizon* of the other place: Also what *Stars* remain a long space above the *Horizon* of one place, they remain but a short time above the *Horizon* of the other place.
8. The *Sun* and *Stars* seem to rise to the Inhabitants of one place, on the *right* hand; to the Inhabitants of the other, on the *left*; if that both shall turn their faces to the *Æquator*.

Proposition X.

The Periœci *of one place are the Antipodes of the* Antœci *of that place, and the* Antœci *of the Antipodes of that place.*

So the *Antipodes* of one place, are the *Periœci* of the *Antœci* of that place, and the *Antœci* of the *Periœci*: These are plain from the *Definitions*, neither do they need probation.

Proposition XI.

A place in the Globe being given, to find those places which have the same Hours and Meridies with the place given: also those places which reckon contrary hours and Midnight, when it is Midday in the place given.

Sundry Questions wrought and performed by the Globe.

Let the place given be brought to the *Brazen Meridian:* so all the places which are subject to the same *Semicircle* of the *Meridian* of this, or those places, which number at once all the same hours: then let the *Index* be placed at the 12*th hour* of the *Cycle*, and let the Globe be turned round until the *Index* shew the other 12*th hour:* so the places which are subject to the same *Semicircle* of the *Brazen Meridian*, are those reckon'd *hours*, contrary to the *hours* of the place given.

Proposition XII.

A place being given in the Globe, to find those places, in which all the days of the year are equal to the nights of the former place.

Let the place given be brought to the *Meridian*, and let the *Parallel* of its *Antœci* be found. All the places scituated in this *Parallel* satisfie the demand.

But if that a *place* be required, whose *days* are equal to the *nights* of the place given, and all the hours of the same; then the place of the *Antœci* is only that sought for.

But if all the hours be contrary, the place of the *Antipodes* only satisfieth the demand.

Proposition

Proposition XIII.

A place in the Globe, and the day of the year being given, to find the hours in which the Inhabitants of that place, and its Antœci *both together, may see the* Sun, *or in what hour the* Sun *is above the Horizon of both places; also the hour in which he is sooner seen in one place, than in another.*

Let the *Longitude*, or time of the stay of the *Sun* above the *Horizon* of the place given, at the day given, (according to the *fourth Proposition* of the *25th Chapter*) be found; the *hours* in which this time is deficient from 24 *hours*, are the *hours* of the day in the place of the *Antœci*. For these two places have the *Sun* elevated together so many *hours*, as the day of the place given consisteth of *hours*, or the day of the *Antœci*, *viz.* of that day which hath no more than 12 *hours*, as he is in the days of the *Æquinoxes*; but lesser than other days; Or, that I may speak more plainly, if the *day* of the place given is less than 12 *hours*, then the *Antœci* shall see the *Sun* on the same *hours*; but yet in more, to wit, before and after that time. But if the *day* of the place given be more than 12 *hours*, the number of the hours of the *night* must be taken: for so many *hours* together the *Antœci* shall see the *Sun*, and no more; and these *hours* are to be reckoned about the *Meridies*, because they have their *Meridies* together.

See Propos. 4. Chap. 25.

Then half of the difference of the *days*, (or the difference between the *day* and *night* of the same place) will shew the *hours* in which the *Sun* ariseth sooner above the *Horizon* of one place, and also setteth later than to the other place of the *Antœci*.

Proposition XIV.

A place being given in the Globe, and the day of the year, to find the hours in which the Inhabitants of that place together see the Sun with their Periœci, *and what hours they do not see it together.*

Let the place of the stay of the *Sun* above the *Horizon* of the place given, be found at the day given, and let the time of his stay beneath the *Horizon*, that is, the quantity of the *day* and the *night*, be found; half the difference between the quantity of the *day* and the *night*, will shew the *hours*, or part of the *hours*, in which the *Sun* first riseth to one place, before he setteth to another; and setteth later also to that place, than he ariseth to this.

CHAP.

CHAP. XXIX.

Of the Computation of time in the divers places of the Earth.

Proposition I.

The Hour of one place being given in the Globe, to find the hour of another place given.

By the Globe, the hours of the places are found out.

LEt the place, whose hour is given, be brought to the *Brazen Meridian*, the *Index* to that hour of the *Horary Cycle*, such as is given. Let the *Globe* be turned round until the other given place come under the *Meridian*, the *Index* in that scituation of the *Globe* will shew the hour demanded of this other place.

Proposition II.

The hour of our place being given, (or of some other place in the Globe) to exhibit on the Globe all those places in which at that hour the Meridies *is; also those in which it is Midnight; also those in which is what hour we please. The Problem should be propounded concerning the Earth, if we would act Scientifically; for it is an affection of the Earth. Understand the same concerning many other following Problems.*

Let the place given be brought to the *Meridian*, the *Index* to the given hour of the *horary Cycle*. Let the *Globe* be turned round until the *Index* shew the *12th hour* of the *Meridies*; so the places which are discovered to be subject to the superiour *Semicircle* of the *Meridian* (from the elevated *Pole* to the *Pole* depressed,) are those which have the *Meridies* at the time given. But if the *Globe* be turned round, that the *Index* may shew the *12th* inferiour hour, the places which are discovered to be subject to the same *Semicircle* of the *Meridian*, are those in which the *Midnight* then shall be.

If we desire places in which is any hour, let the *Globe* be turned until the *Index* shew that hour, if the places subject to the *Semicircle* of the *Meridian*, be those that are sought.

Proposition III.

The Altitude of the Sun being given, the day of the year, and the Latitude of the place, to find the hour at the time of that altitude.

Rules for the finding the hour of the day.

Let the *Pole* be elevated for the given *Latitud* of the place: from the given day let the place of the *Sun* be found in the *Ecliptick*, and let that be noted in the *Ecliptick* of the *Globe*, and brought to the *Meridian*. Then let the *Quadrant* be applied to the *Vertex*, and let the *degrees* of the given *Altitude* be noted in it, and let the *Index* be placed at the *12th hour* of the *Horary Cycle*.

Then let the *Globe* and the *Quadrant* be moved until the noted place of the *Sun* agree with the noted point of the *Quadrant*. In that scituation the *Sun* will shew the hour demanded.

Proposition

Proposition IV.

A Quarter being given, in which the Sun *is beheld sometime of the day given; and the Latitude of a place being given, to find the hour of the day.*

Mariners observe the quarter of the *Sun* on the Compass.

Let all be done as in the preceding *Proposition:* that the *Quadrant* may be applied to the *Vertex*, let his end or extremity be brought to that *quarter* of the *Horizon* which was observed, and let the *Globe* be turned round, until that point of the *Sun* come to the *Quadrant*. In this situation, the *Index* will shew the hour of the day.

Proposition V.

The Sun *shining, by the benefit of the Globe to know the hour of the place given; or the Latitude thereof, which is given.*

Let the *Pole* be elevated for the given *Latitude* of the place, and let the *Globe* be placed at the four *quarters* of the World; then let a *Needle* be fixed perpendicularly at the place of the *Sun* in the *Ecliptick*; or, which is better, let the *Spherical Gnomon* be applied to the *Ecliptick*, so that the *Apex* of the *Gnomon* fix on the place of the *Sun*, and so let it be brought to the *Meridian*, and the *Index* to the *12th hour*: let the *Globe* be turned, until the *Needle* make no shadow on the *Globe*. In this situation the *Index* will shew the demanded hour.

Proposition VI.

An hour of our Numeration being given, to find what hour it is from the rising of the Sun, *that is, the* Babylonish, *or* Norimbergian *hour.*

In time past the *Babylonians*, and now the Inhabitants of *Norimberg*, and some other People, reckon 24 *hours* from one rising of the *Sun*, to the rising of the *Sun* the next day.

Let the *Pole* be elevated from the *Latitude* of the place given, and the place of the *Sun* being found from the day given, let it be brought to the *Meridian*, the *Index* to the *12th hour* of the *horary Cycle*: let the *Globe* be turned until the *Index* shew the hour given. Then the *Globe* remaining immovable, let the *Index* be reduced to 12, which being done, let the *Globe* be turned from the setting to the rising, until the place of the *Sun* appear in the *Oriental Horizon*: and in the *horary Cycle*, let the hours be reckoned from 12, toward the East or rising, even to the *Index*: for these are the *Babylonish* or *Norimberg* hours sought for.

Proposition VII.

On the contrary: *The hour being given from the* Babylonish *rising, to find out the hour of our Numeration, which is from Midnight, or Midnoon.*

Let the *Pole* be elevated for the *Latitude* of the place given, let the place of the *Sun* be noted in the *Ecliptick*, and brought to the *Oriental Horizon*, the *Index* to the *12th hour*; let the *Globe* be turned towards the West, until the *Index* shew the hour given on the *Cycle* from the East. Which being done, let the *Index* be reduced to the *12th hour*, and then let the *Globe* again be moved, until the place of the *Sun* be brought back to the *Semicircle* of the *Meridian* which is next passed through, and let the *hours* be numbred from 12 to the *Index* towards that *quarter*, unto which the motion of the *Globe* was made: so shall be found the hour of our numbring from the *Meridies*, or *Midnight*.

Pro-

Proposition VIII.

An hour of our reckoning being given, to find what hour it is from the preceding setting of the Sun, *that is, the* Italian *hours.*

Of *Italian* hours.

At this day, in many places of *Italy*, and in times past in *Greece* they numbred 24 *hours* from one setting of the *Sun* to the following, or next setting; to find out which, we must thus do from the *hours* of our Numeration.

Let the *Pole* be elevated for the *Latitude* of the place given; let the place of the *Sun* in the *Ecliptick* be noted and brought to the *Meridian*; let the *Index* be placed at the *12th hour* at Noon of the *Cycle*: let the *Globe* be turned until the *Index* shew the *hour* given. Then the *Globe* being immovable, let the *Index* be brought to the *12th hour*; and this being done, let the *Globe* be turned towards the East, until the place of the *Sun* be beheld in the *Occidental Horizon*. Then let the *hours* be numbred from 12 to the *Index*, near the quarter of his motion; for these shall be the *Italian hours* of Numeration.

Proposition IX.

The hour from the setting of the Sun, *or of* Italick *Numeration, being given, to find what hour it is of our Numeration from the Midnoon or Midnight.*

Let the *Pole* be elevated for the *Latitude* of the place given; let the place of the *Sun* in the *Ecliptick* be noted, and brought to the *Meridian*; let the *Index* be placed at the *hour* 12; let the *Globe* be turned to the setting, until the *Index* shew the given *Italick* hour. Then the Globe remaining immovable, let the *Index* be brought to the *12th* hour; this being done, let the place of the *Sun* be turned back to that *Semicircle* of the *Meridian* which it did nearest pass through, so the hours interrupted between 12 and the *Index* (numbring from 12 towards the rising) are the hours from the *Meridies* or *Midnight*, according to our numeration or reckoning.

Proposition X.

An hour of our Numeration being given on the day given, to find what hour of the day that hour is, according to the ancient Judaick *account, and that of other Nations.*

The *Jews* division of the day and night.

In Ancient times, the *Jews* and other Nations (*Astronomy* being not yet polished) divided every day, from the rising of the *Sun* to his setting, into 12 hours, and the night into as many, which hours are therefore termed *Judaical hours*, *Planetary hours* (for another reason,) but more fitly unequal hours; for seeing that neither the *days* or *nights* are equal amongst themselves, or of equal *Longitude*; but increase for half a year, and decrease the other half (except in the places of the *Equator*,) thence it cometh to pass that those hours are sometimes greater, and sometimes lesser; for they increase with the Longitude of the days, and decrease with the decrease of the same. But in places near the *Equator* this increase is not great, as we have shewed in the *25th Chapter*: but all the days of the whole year are almost equal; and thence it cometh to pass, that the People more remote from the *Equator*, as those of *Europe*, never use those hours, but only those People who are not far removed from, or that dwell under the *Torrid Zone*. See Chap. 25.

Therefore the *Problem* may be thus more clearly propounded, *viz. an equal hour being given in a given day, to find an unequal hour.* An *equal hour* is termed the *12th* part of any *day* or *night*, or of the time in which the *Sun* doth remain above or beneath the *Horizon*. An *unequal hour* is termed the *24th* part of that time, in which the *Sun* is moved from the *Semicircle* of

the *Meridian*, until it return again to the same *Semicircle*, which time is called an *Astronomical day*.

Now for the Solution of this *Problem*, we must thus act:

Let the *Pole* be elevated for the *Latitude* of the place given; let the place of the *Sun* in the *Ecliptick* be noted, and brought to the *East*, the *Index* to the 12*th* hour of the *Cycle*: let the *Globe* be turned, until the noted place of the *Sun* come to the *West*; the *Index* will shew the hours for the *Longitude* of this day, or the stay of the *Sun* above the *Horizon*, which must be observed. Then let it be found, what is the hour given from the *East* or *rising* (or from the *West* and *setting*, if that any hour be given after the *setting* of the *Sun*) according to the 6 or 8*th Proposition*. And let the proportion be compared after this Mode, that as the noted hours of the *Longitude* of the whole *day* or *night* are unto 12 hours, so the hours found from the rising, (or setting, if that an hour of the *night* be given) are to the number of the *Judaick* hours.

See Proposition 6 and 8.

Proposition XI.

The Judaick *hour being given, in the day given to find what hour that is according to our Numeration or account; or to reduce a given unequal hour to an equal hour.*

Of the *Judaick* hour.

Let the *Pole* be elevated for the *Latitude* of the place given; the place of the *Sun* in the *Ecliptick* from the day given being found, let it be brought to the *East*, the *Index* to the 12*th* hour; and let the *Globe* be turned to the *West*, that the *Longitude* of that day may appear in *unequal hours* on the *horary Cycle*, which is noted. Then let the place of the *Sun* be brought to the *Meridian*, the *Index* unto 12; and let the place of the *Sun* be turned round to the *Oriental Horizon*, the *Index* will shew the hour of the rising.

Then let it so be brought to pass, that 12 be added to the number of the *Judaick* hour, so also let the found out *Latitude* of the whole be added to the other number, which if that be added to the hour of the rising, we shall have the hour from the *Midnight*, according to our *numeration*: if that the number of these hours be more than 12, let 12 be cast away, and the remainder will shew the hour from *Noon*.

Those *Judaick* hours which are related in the Sermon of *CHRIST*, cannot accurately be reduced to the hours of our account, because the day of the year is not added: so that the *third hour* of that day, may be our 8*th*, 9*th* or 10*th*; so that the 11*th hour* of that Sermon, may be our 7*th*, 6*th*, or 5*th*, *viz.* as that day may be taken either according to the *Summer* or *Winter Solstice*, or the *Æquinoctial*.

Proposition XII.

Those who go from some one part of the Earth, or sayl towards the Sun rising, and the whole Globe of the Earth being encompassed by them, they return to the same place whence they set forth; they in the mean space, at once, have often had the Sun rising, setting, the Meridies, and the Midnight, the very same with the Inhabitants of the place, from which they went from; and therefore when they return, they number one day of a year more than in that place. For Example, *If in this place it be the first day of* January, *they reckon the second of* January; *if they account it to be* Saturday, *they reckon* Sunday. *And if they shall have sayled about the Earth, twice, thrice, or four times, they shall still number so many more days.*

Of the compassing of the Earth.

Those who by a determined course sayl about the whole *Earth* towards the *West*, they in the mean while for one space have the setting or rising *Sun*, the *Meridies* and *Midnight* more rare; and therefore when they return, they number one day less than in that place, to wit, the 31 of *December*; if in that

that place it be the first of *January*, and *Saturday*, or the last day of the Week, when in this place it shall be *Sunday*, or the first day of a new Week: And if they have sayled round the *Earth* twice, thrice, or four times, they shall also reckon so many *days* less.

This was a matter of wonder and admiration some Ages ago to *Mariners* and others; but the frequency of this Experiment hath lessened the admiration, and hath administred occasion to *Mathematicians* to enquire out the cause.

Neither is it difficult to explain the same, so that the motion of the *Sun*, and the *Meridian* of the places of the Earth be well apprehended, and a certain *day* of the year be proposed: for it dependeth on the *Diurnal circumvolution* of the *Sun*, not from his proper *motion*, as some have thought, which we may begin from any *Circle*; but for our more easie understanding it is very convenient to begin from the *Meridies*, that the day may be the time from one *Meridies* to the following *Meridies*, or Noon; or whilst the *Sun* returneth from the *Semicircle* of one *Meridian*, to the same *Semicircle*.

Therefore, because that those who Sayl towards the East, or Rising, come to those places where the *Sun* first riseth and maketh his *Meridian*, than in the place from whence they departed; thence it cometh to pass, that the *Sun* being in the *Meridian* of the place to which they have arrived, they begin to reckon a new *day*. For Example: the second *day* of *January*, where in the place of their departure hitherto they have numbred the first *day* of *January*, (if that they set Sayl on the same,) and the difference shall be one or two *hours*. This anticipation daily increaseth until they come towards the East, so that it shall make the *hours* of half a day, when they come to the opposite *Semicircle* of the *Meridian*; for here they shall have the *Meridies* of a new *day*, when in the place of their setting forth it shall be the *Midnight* of the preceding *day*. And where they shall come to the *Meridian* 15 *degrees* more remote, being in that, they shall have the *Meridies* 13 *hours* sooner, than in the place of their setting forth: and when again they shall come to a *Meridian* more remote 15 *degrees*, there they shall have the *Meridies* 14 *hours* sooner, than in the place of their setting forth. And so moreover, as they shall come to the *Meridians* or *places* more remote 15 *degrees*, they shall have the *Meridies* 15, 16, 17 *hours* sooner, and shall begin to account a new *day* sooner, than in their place of their setting forth: so that when at length they shall have returned to the place, they shall then number the *Meridies* of a new *day* sooner by 24 *hours*, where in the place also the *Meridies* is, which yet may answer in number to the *Meridies* which the *Mariners* had the former day.

But it is contrary with those who Sayl towards the West, when they return to the place from whence they set forth; for by how much the more they recede from this place, by so much the more they shall have the *Sun* later in the *Meridies*, because they are in a more remote *Meridian*, and therefore do later begin the account of their new *day*, than in the place whence they set forth: So that this *Proposition* taketh away an whole *day* in the return.

Corollaries.

Corollary 1. If that two at the same time set forth from any place of the *Earth*, the one towards the East, the other towards the West, and they shall return both together to the same place, the whole *Earth* being Sayled about: he that took his Journey towards the East shall reckon two *days* more, than he which took it towards the West. And if they have Sayled the *Earth* about twice, they shall reckon 4 *days* more; if thrice, 6 *days* more, &c. but the *days* of these are longer; of those, shorter.

Corollary 2. The same will happen, if that in any place of the *Earth* any two meet one the other; and from hence first, and then often afterwards, was this apparently discovered: for when *Ferdinando Magellanes* by a direct course into the West, had entred the *Indies* by the *Streights*, denominated from him, it was found out by the *Mariners*, which there met with other *Europeans*, brought towards the East by an ordinary Journey, that the *Kalendar*, or the Numeration of the *days*, differed an whole *day*. The same hath been observed by all, which have Sayled round the *Earth*, when they have come into the *Indies*.

Corollary 3. This also is the cause, that in two near places the account of a different day is observed, *viz.* in the *Philippine Isles* and in the City of *Macoa* on the Coast of *China*, although they lie under the same *Meridian*; yet they reckon the days of the *Kalendar* sooner in *Macoa*, than in the *Philippine Isles*, and that by the anticipation of one *day*; so that it is *Sunday* in *Macoa*, when but *Saturday* in the *Philippine Isles*. The cause of this diversity is this, that the *Portugals* possessing the City of *Macoa* came thither from *Europe* towards the East, by a set course out of *India*; but the *Spaniards*, which possess the *Philippine Isles*, came thither from *Europe* towards the West, by a set course from *America*. Therefore it is inferred from the preceding *Corollary*, because here in *Macoa*, and the *Philippines*, they almost meet, or come into the same *Meridian*, that they should exceed by one *day*, the days of the other.

The day in *Macoa*, not the same as in the *Philippine Isles*.

CHAP. XXX.

Of the various Rising, Setting, Altitude of the Sun, *and other Appearances in the divers parts of the Earth.*

Proposition I.

To place or hang a Terrestrial Globe, *so that when the Sun shineth, those parts of the Globe may be illuminated, which the Sun enlighteneth in the Earth at any time, and that it also may appear, unto what People the Sun riseth, and to whom it setteth; to whom it makes the* Meridies, *and to whom it is altogether absconded; to what place it is vertical: also to find the place of the Sun in the* Ecliptick, *and the day of the year; also the hour of the place.*

The motion of the *Sun* shewed by the Globe.

LET the place in which the *Globe* is placed be noted on the *Globe*, and brought to the *Meridian*, and let a mark be made with a *Chalk* on that *point* of the *Meridian*. Therefore if the *Globe* be to be hung by a *Cord*, the *Cord* must be tied to the point of the *Meridian*. But if that it must be placed firmly in any place, an *Iron pin* must be brought through the *Center* of the *Globe*, even to the opposite point; and this *Iron pin* must be closely fixed to the *Horizontal plain*, that it may remain immovable.

The *Globe* must be disposed according to the four *quarters* of the World, *viz.* that the North part of the *Globe* may regard the North part of the *Earth* or *Heaven*; which, the *Meridian line* being found, is easie to do by the *Mariners Compass*, or the *Magnetick Needle*. The *Globe* being thus placed, at every moment of the day, when the *Sun* shineth, on the *Globe* may be seen the part of the *Earth* illuminated, and the part not illuminated. Those places which lie in the middle *Semicircle* of the part illuminated, are those which will have the *Meridies* at that moment of time. To those which are seated in the *Oriental Semicircle*, dividing the illuminated part from the part not illuminated, the *Sun* setteth; but to those which are in the *Occidental Semicircle*, separating the illuminated part from the part not illuminated, the *Sun* riseth.

To find out the place of the *Sun* in the *Ecliptick*, let the *Needle* or *Spherical Gnomon* be moved hither and thither perpendicularly about the middle of the part illuminated, until it maketh no shadow, and let the *point* in the *Globe* be noted: for this being brought to the *Meridian*, here will shew the declination of the *Ecliptick point*, in which the *Sun* is at the time of the Observation; whence, according to the condition of the time, to wit, *Spring*, *Summer*, *Autumn*, or *Winter*, the place of the *Sun* shall be known, and thence the day of the year.

Also the place in the *Globe*, unto which the *Needle* being affixed gave no shadow, is that to which the *Sun* is vertical at that moment of time, and the *Parallel* passing through this place will exhibit all the places, in which the *Sun* will be vertical on that day.

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Moreover, to find the hour of the place in which the *Globe* is so placed or hung, let that place be brought to the *Meridian* to which the *Sun* is vertical, the *Index* to the 12*th* hour of the *horary Circle*; and let the *Globe* be turned round until our place, or that in which the *Globe* is seated, do come to the *Meridian*: the *Index* will shew the hour.

But because the *Globe* cannot be turned round, when it is affixed by the *Iron Style* to the *Horizontal plain*, therefore it will be convenient that the *Quadrant* be tied to the *Pole*, or part of the *Circle* of the *Periphery* 113½: for here the *Arch* being brought to the place of the *Needle*, will shew the declination of the *Sun* from the *Æquator*, whence the place of the *Sun*, and the *day* of the year shall be found. The same *Arch* will shew the *degree* in the *Æquator*, from whence if that the *degrees* be numbred to the *Brazen Meridian*, and these *degrees* be changed into *hours*, or parts of hours, you shall have the *hour* of the place. If so be that the *Sun* be between the *Occident* and the *Brazen Meridian*, that is, of our place; but if that it be between the *East* and our *Meridian*, the hour found out must be subtracted from 12, and the remaining number will shew the hours from *Midnight*.

Fifteen *Degrees* make an *Hour*.

If that such a *Brazen Arch* be adjoyned to the Pole of the *Globe*, as I have described, 113½ *degrees*, it may be bored through from the end even to 47 *degrees*; that is, from the departure of the *Sun* from the *Æquator*, and a turning Plate be inserted in it, which may bear the *perpendicular Style*: and so there will neither be need of a *Needle*, or of a *Spherical Gnomon*, and the operation will be less obnoxious to errour.

Proposition II.

The Terrestrial Globe *being so placed, as in the former Proposition is declared, it will also shew, when the* Moon *shineth, to what People, at any moment of time in which it is above our Horizon, it is conspicuous; to whom it ariseth, to whom it setteth, and to whom it is vertical.*

These are all manifest from the preceding *Proposition*. See Propos. 1.

Proposition III.

By how much the places of the Earth are remote from the Parallel of the Sun *on any day, by so much the* Sun *is elevated to a lesser Altitude in the same hours above their Horizon.*

Let the places in the same *Meridian* be taken in the *Globe*, for these do reckon all the same *hours*, and that at once: then let a *Parallel* be described for any assumed day, and it will be manifest, that any point of this *Parallel* is farther distant from the more remote places, than from the places more near.

The *Sun* therefore being above, the points of this *Parallel* will be farther distant from the *Vertex* of the remoter places, than from the *Vertex* of those that are nearer; and therefore he shall be less elevated over the *Horizon* of those places, than of these.

Proposition IV.

By how much the places of the Earth are more remote from the Æquator, *or more near the* Pole, *by so much the more the parts of the Horizon are distant, in which the* Sun *riseth on the day of the Solstice, and the day of the Winter; as also those in which he setteth. The same is true concerning the* Moon *and all the* Planets.

Take what *places* you please of a diverse distance from the *Æquator*, and let the *Pole* be elevated for the *Latitude* of every one of them, and let the *points* be noted in the *Horizon*, in which the *Tropicks* of *Capricorn* and *Cancer* cut it. A comparison being made, the truth of the *Proposition* will appear: this is also shewed the same way, by how much the *places* are more remote from the *Æquator*, by so much the more the *Sun*, in his *Æquinoctial rising*, is distant in the East on every *day* of the year. The *Astronomers* term it, the rising *Amplitude*.

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Proposition V.

Stars placed between the Parallel of any place (lying without the Æquator*) and the* Pole*, are less elevated above the Horizon of the places between this Parallel, and the other Pole of those situated there, than above the Horizon of the places situated between this Parallel and the nearer Pole.*

Of the elevation of *Stars*, &c.

The *Parallel* of any *Star* may be designed on the *Terrestrial Globe*, or a *point* only noted for a *Star*, and any place more remote from the *Pole* being assumed, designeth the *Parallel* of the place. Then taking another place situated towards the other *Pole*, the stay of the *Star* above the Horizon of both places may be found, and the truth of the *Proposition* will be manifest.

Proposition VI.

In places situate in and near the Æquator*, the* Sun *and* Stars *directly ascend above the Horizon, even to the Meridian, and so descend again: but in places situated above the* Æquator*, they obliquely ascend and descend; and so much the more obliquely, by how much the place is more remote from the* Æquator.

Of the ascension and descension of the *Sun* and *Stars*.

Let any *Parallel* of the *Sun* be described on the Globe, such as some already are delineated on the Globe, *viz.* the *Æquator*, the *Tropicks*, and some intermedial ones: then let the *Poles* be placed in the very *Horizon*, that it may be the *Horizon* of the places of the *Æquator*, and it will be evident that the *points* of the *Parallels* directly ascend from the *Horizon* to the *Meridian*. Then let the *Pole* be elevated for the *Latitude* of any other places, and it will appear that the *Parallels* are so much the more oblique to the *Horizon*, by how much the more the *Pole* is elevated; that is, by the *Wooden Horizon* becometh the *Horizon* of the places more remote from the *Æquator*, or nearer to the *Pole*.

Proposition VII.

By how much the place is more remote from the Æquator*, by so much the more the Signs of the* Zodiack*, and the other Constellations, require the greater time to arise, and set; and they pass through the* Meridians *of all places at an equal time.*

Let two *places* be taken on the Globe, unequally distant from the *Æquator*, and let the *Pole* be elevated, and observed separately for each of them, how much time any Sign of the *Zodiack* requireth to ascend above the *Horizon*; *viz.* the entrance of the Sign being brought to the *Oriental Horizon*, let the *Index* be placed at the 12*th* hour, and the Globe be turned round until the whole *Sign* be rising: the *Index* will shew the *hours* elapsed in the space whilst the *Sign* arose; for by the comparison of the time, the truth of the *Proposition* will be manifest.

Proposition VIII.

The day of the year being given, to find, or shew on the Globe those places, in which the Sun ariseth in any given quarter.

To find the rising of the *Sun* in any quarter, by the *Globe*.

This *Problem*, and those that follow, should be propounded and resolved concerning the *Earth* it self, if that we would act according to Art: for these *affections* belong unto it; but they are propounded concerning the *Globe*, because here it representeth the *Earth*; although another method must be used in the *Earth*, or another construction, which although it can only be comprehended by the mind, is sufficient, that it may hinder in the practice by reason of the obstacles.

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This is the same with that *Problem*, The *day* and the *quarter* being given, in which the rising of the *Sun* was observed, to find the *Latitude* of that place, or its *Parallel*; in any *point* of which it is manifest that we are placed. The Solution of which we have delivered in the 23 *Chapter*, *Proposition* 11. See Chap. 23. Propos. 11.

Proposition IX.

The day and the hour, or part of the hour being given, to shew the place on the Globe to which the Sun is then vertical.

First let the place of the *Sun*, from the given day being found, be noted on the *Ecliptick* of the Globe, and that being brought to the *Meridian*, let a mark be made with a *Chalk* on the supereminent point; then let those places be found, in whose *Meridian* the *Sun* was at the given moment of time, and let them be brought to the *Brazen Meridian*. These being done, that place which is subject to the noted point of the *Meridian* is the place which is demanded, *viz.* that to which the *Sun* is vertical at the given moment of time.

Proposition X.

The day and the hour being given, to shew all the places on the Globe, from whose Vertex the Sun is distant the given degrees at that hour; but the given degrees must not exceed a hundred and eighty. Or, the day *and the* hour *being given, to shew on the Globe those places, above whose Horizon the Sun hath the given Altitude, or the given depression beneath it; but the Altitude given must not exceed* 90 *degrees, as likewise the depression.*

Further note.

Let the place be found on the Globe, to which the *Sun* is vertical at the hour given, and let this be brought to the *Meridian*, and let the *Quadrant* be affixed to the imminent point of the *Meridian*. Let the *degree* of distance from the *Vertex* given be noted, and the *Quadrant* be turned round, the *Globe* remaining immovable; all the places of the *Earth* through which the noted *degree* of the *Quadrant* passeth, are those from whom the *Sun* hath the given distance, or above whose *Horizon* the *Sun* hath the given *Altitude*.

Proposition XI.

At the given hour of the day, to shew on the Globe all plains unto which the Sun riseth and setteth, and to which he is fixed at the Meridian; and all that are illuminated, and not illuminated.

Further, concerning the rising and setting of the *Sun*, found out by the Globe at any day, or hour of the day.

Let the place be found in the Globe, to which the *Sun* at the time given is vertical; and let the place be brought to the *Meridian*, and the *Pole* elevated for the *Latitude* of that place: or let that place be placed in the vertex of the *Horizon*. So all those places which are discovered under the *Semicircle* of the *Meridian* above the *Horizon*, shall have the *Meridies*; but those places which are beheld in the *Oriental Semicircle* of the *Horizon*, are those to which the *Sun* then setteth; but to those which lie in the *Occidental Semicircle* of the *Horizon*, the *Sun* riseth at the given time; and all the places which are above the *Horizon* are illuminated by the *Sun*: on the contrary, all the places situated beneath the same, then want the presence of the *Sun*.

Note, that the *Problem* must be understood of the rising and setting of the body of the *Center* of the *Sun*: for the body of the *Sun* illustrateth part of the *Earth* somewhat bigger than the *Hemisphere*, which how big it is, shall be discovered in the following *Proposition*. Therefore we may shew the places to which the *Sun* riseth or setteth, when we have *Noon* or *Midnight*. And contrariwise, those in which he setteth, when he ariseth to us, who then have *Midnight*, or *Mid-day*.

Pro-

Proposition XII.

The Semidiameter of the Sun *and* Earth *being given, and the distance of the* Sun *from the* Earth *being known, to find out the part of the* Earth *which the* Sun *illuminateth.*

See Scheme.

Let the *Semidiameter* of the *Earth* be A B, A C; A the *Center*; A B C D E the greatest *circle* of the *Earth*; S the *Center* of the *Sun*; S L, S O the *Semidiameter* of the *Sun*; L B, O C the *rays* touching the Globe of the *Sun* and *Earth*: for these distinguish the part illuminated from the part not illuminated; therefore the Arch B D C representeth the part of the *superficies* of the *Earth* illuminated, and the *Arch* B E C the part not illuminated. Let the *Tangents* L B, O C be extended until they concur in R, and B N parallels to A S: therefore in the *Triangle* B N L, let N L be given; the excess S L above A B, and B N of equal distance to A S; the *Angle* B N L is direct, because that B L toucheth the *Circle*. Wherefore in the *Triangle* B L N, let the *Angle* N B L be found according to this *Proposition*; that as B N is to N L, so are the whole *signs* to the *Tangent* of the *Angle* N B L. Moreover the two *Angles* L N B, N B L are together equal to one *streight* or 90 *degrees*, and B N L is equal to the *Angle* A S L, or B A R.

Therefore the Arch of the *Angle* N B L is equal to the Arch B M, by which P B is greater than 90 *degrees*, or than P M: so also the Arch P C.

If we take the *Semidiameter* of the *Sun*, according unto *Ptolomy*, of 5^2 *Semidiameters* of the *Earth*; but the distance A S, 1168 *Semidiameters*: these, I say, being laid down, the *Arch* M B will be found 13 *minutes*, in which the *Sun* illustrateth the *Earth* more than half M P Q.

Corollary. When therefore the *Center* of the *Sun* riseth to some places, then his *limbus* or *edge* riseth to the People which inhabit in the parallel of the *Horizon*, situated 13 *minutes* beneath the *Horizon*; also after the same Mode to those to whom he setteth. And when his *Center* setteth, then his *limbus* yet remaineth conspicuous, until the *Center* setteth to the People, which are remote 13 *minutes* from our *Horizon*.

Proposition XIII.

The height of a Mountain being given, to find how much sooner the Sun *seemeth to rise in the Vertex of the same, than at the foot or root of the Mountain; and how much later it setteth.*

See Chap. 9. Propos. 5.

From the given Altitude, by the fifth *Proposition* in the ninth *Chapter*, let the interval or *Arch* from which the *Vertex* of the *Mountain* may be discovered, or in the bound of which, a *line* so drawn from the *Vertex* of the Mountain, that it may be the *Tangent* of the *Earth*, refracteth the same; for this *line* sheweth the first ray, which may come from a direct passage from the *Sun* to the *Vertex* of the Mountain. Moreover, the *point* of the *Earth* in which this is touched by the *line*, is the place to which the *Sun* ariseth, when he beginneth to be seen on the *Vertex* of the Mountain, and the *Arch* interrupted between that point and the foot of the Mountain, is equal to that in which the *Sun* is depressed, as yet, beneath the *Horizon* of the foot of the Mountain, when he is apparent in the *Vertex*.

Therefore the *Problem* is reduced hither; The depression of the *Sun* beneath the *Horizon* being given, to find the time which is spent whilst the *Sun* moveth from the depression to the *Horizon*; whence also it will be manifest, that this time is also diverse in the divers days of the year. Therefore let the place of the root of the Mountain be noted on the Globe, and let the *Pole* be elevated for the *Latitude* of the same; let the *Quadrant* be affixed to the *Vertex*. The place of the *Sun* being found in the *Ecliptick* from any day taken, let it be noted; also the

the Point of the Ecliptick opposite to the place of the *Sun*. Then let this opposite Point be brought to the Occidental Horizon, and let the Index be placed at the hour 12. This being done, let the Degree of depression before found be noted in the *Quadrant*, and the opposite Point be turned above the Horizon, until it hath an Altitude equal to the Arch of the depression, (which will be discovered from the application of the *Quadrant*) so the place of the *Sun* beneath the Oriental Horizon, will have that Depression. And the Index in the Horary Circle will shew the time intercepted between that depression of him, and his emersion above the Horizon.

But because in this case we do almost work only by Minutes, therefore it is better to calculate it, than to search after it on the Globe. Now you shall find it if that the Altitude of the Mountain be placed 3 *stadias*, or $\frac{1}{4}$ of a *German mile*, because the Arch of the depression is about three Degrees, and if the Latitude of the Foot of the Mountain be 38 Degrees, and the place of the *Sun* about the middle of *Leo*, the time in which the *Sun* is beheld, is sooner in the *Vertex*, than at the Foot of the Mountain by 13 Minutes. Hence it is manifest, that that is not so probable which *Aristotle* relateth of the highest parts of *Caucasus*, and *Pliny* of the top of *Mount Casius*, that they before the rising, and after the setting of the *Sun*, are illustrated with the *Sun* Beams, even to the third part of the night. Now how great an Altitude is required for this, shall be shewed in the following Proposition.

The Mountains of *Caucasus*, and *Casius* according to *Aristotle*, and *Pliny*, are illustrated with the *Suns* rayes to the third part of the night.

Proposition. XIV.

The time being given in which the Sun *is sooner discerned on the Vertex of the Mountain, than at the foot of the same, to find the Altitude of the Mountain.*

Let the Pole be Elevated on the Globe, for the Latitude of the Root of the Mountain, and the Point being noted, which is opposed to the place of the *Sun* in the *Ecliptick*, let the Arch of the depression of the *Sun* beneath the Horizon, for the given time, be found. Then from this Arch, as from an interval, from whence the *Vertex* of the Mountain is discovered, the Altitude of the Mountain must be searched after by the Fourth Proposition of the Ninth Chapter.

Proposition. XV.

The places of the Moon being given in the Zodiack, together with its Latitude, to find out, or shew all those Places on the Globe, to which the Moon is Vertical in the Circumrotation of that day.

Let the place of the Moon taken from the *Ephemerides*, be noted in the Ecliptick, then let one end of the *Quadrans* be applyed to the Pole of the Ecliptick, the other to the Point noted in the Ecliptick, or to the place of the Moon, and let the Degrees of the Latitude of the Moon be accounted on the *Quadrans*, and let a mark be made at the term of the Numeration on the Globe; then this being brought to the Meridian, and a Chalk applyed, let a Parallel be described, which the Moon that day doth describe by her Circumvolution; and all the places situated in this Parallel, are those demanded.

After the same Mode we act with the other Planets, if their Longitude and Latitude be given.

Proposition XVI.

The place of the Moon *being given in the* Zodiack, *and its Latitude, and the day of the year, to find the hour, in which she ariseth in any place given, and in which she setteth; also in which she maketh midnight.*

Let the Pole be Elevated for the Latitude of the place of the Earth given; let the place of the *Sun* found from the day of the year, be noted on the Ecliptick. Then let a point also be noted on the Globe for the place of the Moon, as we have shewed in the preceeding Proposition. This being done, let the place of the *Sun* be brought to the Meridian, the Index to the *12th* hour of the Circle, and let the Globe be turned round until the Moon arise, or be in the Meridian, or set. For the Index in the Circle will shew the hour of her rising or setting, or being in the Meridian, or setting. After the same manner we must act with the other Planets.

See Proposition 15.

Proposition XVII.

To shew on the Globe all those places, in which the Moon *ariseth at the given hour, and in which she is in the Meridian, and to which she setteth, if that the Longitude and Latitude of the* Moon *be known.*

By the Globe are shewed all the places in which the Moon ariseth, and setteth at any hour.

Let the place of the *Sun*, as also of the Moon, be noted on the Ecliptick, as aforesaid, and the place of the *sun* being brought to the Meridian, and the Index to the *12th* hour of the Circle, let the Globe be turned until the place of the Moon come to the Meridian, and let the hours be observed on the Circle, which are noted, or let a mark be made on the Circle: for they shew how much later the Moon cometh to the Meridian, than the *Sun*. Moreover the place of the Moon being constituted in the Meridian: let the eminent point be noted in this; or let the Parallel of the Moon be described. This done, let the place of the *Sun* be brought to the Meridian, and the Index to the *12th* hour. Let the Globe be turned until the hour be found, in which the Moon toucheth the Meridian of the place. Let the point also of the Meridian be noted, which hangeth over the place of the Moon. Moreover let the place whose hour is given, be brought to the Meridian, the Index to the hour given: let the Globe be turned until the Index shew the *12th* hour of noon, or midnight; so the places are those subject to the Semicircle of the Meridian, in which the *Sun* maketh the *Meridies* at the hour given. Let the Index be reduced to 12, and let the Globe be turned again until the Index come to the hour noted before in the Circle. In this situation of the Globe, the place which is subject to the noted point of the Meridian, is that to which the *Sun* is then *Vertical*.

Therefore let this place be constituted in the Globe in the *Vertex* of the Horizon, all the places are those subject to the Superiour Semicircle of the Meridian, to which the Moon is then in the Meridian: but those places which are discerned in the Oriental Semicircle of the Horizon, are those to which the Moon then setteth. Lastly in those places, which are discerned in the Occidental Semicircle of the Horizon, the Moon riseth at the given moment of time. After the same Mode we act with *Saturn*, *Jupiter*, and the rest of the *Planets*, if that their Longitude and Latitude be known.

Pro-

Proposition XVIII.

The day, or hour being given, in which the Ecliptick of the Moon *shall be, or hath been, to exhibit on the Globe all those places which have seen it, and in that species, to whom the* Moon *shall be in the* Meridian, *to whom it shall arise, and to whom it shall set Eclipsed.*

This *Problem* little differeth from the precedent, but yet it hath a more easy Solution.

From the day given, let the place of the *Sun* be found, except it be already known, and let the Point opposite to it be noted on the Ecliptick of the Globe, for this is the place of the Moon.

Let the place be found in the Globe to which the *Sun* is Vertical at the hour, and let the *Antipodes* of this place be found according to the VI. *Proposition* of the XXVIII. *Chapter*, for this shall be the place, unto which the Moon being Eclipsed, shall be Vertical. Let this place be constituted in the *Vertex* of the Horizon, the Pole being elevated or depressed for the Latitude of the place, so all the places of the Globe which are above the Horizon, may have seen that Eclipse: and those which lie under the *Brazen* Meridian, shall see it in the Meridian: those which lie under the Oriental Semicircle, shall see it in the West, or setting with the Eclipse; but those which lie in the Occidental Semicircle of the Horizon, shall see it in the East, or Noon to arise Eclipsed.

See Proposition 6. Chapter 28.

But seeing that an Eclipse is not performed in one moment of an hour, but dureth for some hours, therefore it is wont to be divided into the Beginning, Middle, and End, and the Moments of the hours are wont to be noted, therefore the consideration must be more especially concerning the middle time of the Eclipse. Moreover, seeing that the Moon is less than the Earth, it will illustrate a lesser part than the *Hemisphere* is; also it will be seen by the *Inhabitants* of a lesser part, so that it will not be any more conspicuous to those which lie in the Oriental Semicircle of the Horizon: but to those in the Occidental Semicircle it hath not yet appeared, but a certain Circle Parallel to the Horizon is to be seen, which terminateth the part illustrated. Now how much this part is distant from the *Hemisphere*, or how great a portion it is of the Superficies of the Earth, shall be the enquiry of the following Proposition.

Proposition XIX.

The Semidiameter of the Moon, *and* Earth *being given, and the distance of them, to find out how long a portion of the* Earth *is illustrated by the* Moon *at the Full.*

See Scheme.

This *Problem* must be solved by the same Mode that we have used in the Eleventh Proposition. For let the *Center* of the Earth be S, the great Circle representeth the Superficies, O F L H. The *Center* of the Moon A, the greatest *Circle* C P B Q. Let the *Tangents* L B, O C, be drawn. For these are the ultimate rayes that can come from the Moon to the Earth, and therefore the Arch O H L, will denote the part of the Superficies of the Earth, which is illustrated by the Moon, and whose *Inhabitants* may see the Moon together, which by how much lesser it is than the *Hemisphere*, we shall know if we find the Angle H S L, or the Arch H L. Let B N be drawn from B, Parallel to A S, B A shall be equal to S N, and N L, the excess of the Semidiameter of the Earth S L, above the Semidiameter of the Moon A B, and B N is of an equal distance with A S: but the the Angle N L B is direct, or of 90 Degrees. Therefore in the *Triangle Streight Angle* N B L, we shall find the Angle N B L by this proportion. As N B is to N L, so are the whole Signs to the Signs of the Angle L B N, whose Arch is that in which H L differeth from the Arch 90, or from the *Quadrant* of the *Periphery* of the Earth, and so great an interval is the *Periphery* of the Earth distant from the greater *Circle*, terminating the part of the Earth illuminated by the Moon. Let us suppose the Semi-

See Proposition 11.

diameter of the Moon to contain four parts, of such like the Semidiamiter of the Earth contains 15, or $\frac{4}{15}$ of the Semidiamiter of the Earth: now the greatest distance of the Moon from the Earth in her Full, is 64 Semidiamiters of the Earth. Therefore N L shall be $\frac{11}{15}$, and the proportion shall be made thus: as 64 is to a $\frac{11}{15}$, so is 10000000 to 1145833, which is the Sign 39 Minutes. Therefore the Arch H L, is less than 90 Deg. 39 Minutes, and therefore 89 Deg. 21 Minutes.

Therefore in the place to which the Moon is Vertical constituted in the *Vertex* of the Horizon, the People to whom the Moon then riseth and setteth, shall not be those which are beheld in the very Horizon, but those in the Parallel of the Horizon, distant from it 39 Minutes.

Proposition XX.

The Declination of any Star being given, to exhibit all the places on the Terrestrial Globe, *unto which that* Star *is Vertical in his Diurnal Circumvolution.*

Of the Declination of Stars.

Let the Degrees of the given Declination of the Æquator, be numbred on the *Brazen* Meridian, and in the term of the Numeration make a sign with a Chalk, or let a Parallel be noted on the Globe by a Chalk applyed, and the Globe turned round, all the places scituated in this Parallel, are those, which pass through the noted Point of the Meridian, the *Vertex* of which that *Star* in every Diurnal Circumvolution shall possess for some moment of time.

Proposition XXI.

The direct Ascension of any Star *being given, and the hour of the given day being given, to shew all those places on the* Terrestrial Globe, *on whose Meridian the* Star *is at the given hour.*

Concerning the Ascendon of any Star.

Let the Degrees given of the right Ascension of the *Star* be numbred in the Æquator, and let a mark be made with Chalk. Let also the place of the *Sun* found from the given day, be brought to the Meridian; and let the Degrees of the Æquator in the Meridian be noted. Let the Arch of the Æquator intercepted between these two noted Points be observed, or which is the same, let it be changed into hours, or scruples of hours: for they shew the time which intercedeth between the Appulse of the *Sun*, and that *Star* at any Meridian. This done, let the places be found in whose Meridian the *Sun* is at the given hour, or scruple of an hour, and the Index being placed at 12, let the Globe be turned until the Index shew the hour before noted, or until the noted Degrees of the Æquator have passed the Meridian. In this scituation of the Globe all those places which are discovered subject to the Meridian, are those sought for, *to wit*, those in whose Meridian the *Star* is at the given time.

Proposition XXII.

The right Declination, and Ascension of a Star *being given, and any time of the day being given, to exhibit on the Globe first, that place to which the* Star *is then Vertical. Secondly, all those places above whose* Horizons *the* Star *then shall be, and those beneath whose* Horizons *the same shall then be: also those, in whose* Meridian *it shall be at the* Meridies, *and in whose* Meridian *it shall be at midnight: also in all those places, in which the* Star *shall then arise, and all those in which it shall then set.*

From the direct Ascension, let the places be found in whose Meridian the *Star* is at the time given, and those may remain subject to the *Brazen* Meridian. Then let the Degrees of the given Declination from the Æquator, towards the Pole be numbred, and the Point of the Globe which is subject to the term of the Numeration be noted. For this is the place, unto which the *Star* shall be Verti-

Vertical at the time: Let it be placed in the *Vertex* of the Horizon, the Pole being Elevated for Latitude; to those places which are subject to the Superiour Semicircle of the Meridian shall have that *Star* at the given time in the Meridian of the *Meridies*. But those places which are beheld in the Inferiour Semicircle of the Meridian, shall have it in the Meridian of Midnight: and those places which are beheld in the Oriental Semicircle of the Horizon, are those to which the *Star* setteth at once at that time: but to those which lie in the Occidental Semicircle of the Horizon, the *Star* then ariseth together.

Proposition XXIII.

To exhibit on the Terrestrial Globe *all those places, in which the* Sun, Moon, *and all the* Stars, *for so long time are obscured beneath the* Horizon, *as they remain to us, or any other given place above the* Horizon.

Let our place, or any other given place be brought to the Meridian, and let the Parallel of the *Antæci* be found; all the places scituated in this Parallel, are those sought for, as may be shewed on the Globe, if that the Pole be Elevated for the Latitude of the place given, and depressed for the Latitude of the Parallel found.

Proposition XXIV.

To shew the Cause why the days sooner augment and decrease about the Æquinoxes, *and more slowly about the* Solstices, *where for many days there seemeth to be no encrease or decrease, and that except the* Æquator, *in all the places of the Earth, and so much the more, by how much they are more removed from the* Æquator.

Concerning the augmenting and decreasing of the days about the *Æquinoxes* and *Solstices*.

For *Example*, Let us take 30 days before the *Vernal Æquinox*, (from the 20 of *February*, to the 21 of *March*) and 30 days after the *Solstice* of *Winter*, or the *Solstice* of *Capricorn* (from the 21 of *December*, to the 21 of *January*); here the Cause must be shown, why the excess of the 21 of *March*, (or stay of the *Sun* above the Horizon) above the Longitude of the 20 of *February* be much greater, than the excess of the 21 of *January*, is above the 21 of *December*.

Let the place of the *Sun* for every one of those 4 days be noted on the Ecliptick of the Globe, *to wit*, the first Degree of *Pisces*, of *Aries*, *Capricorn*, and *Aquarius*, and let the Parallels of the *Sun* be described, whereof two are extant in the Globe, *viz.* the Æquator, and the Tropick of *Capricorn*. Therefore it will be apparent, that the Æquator, or Parallel of the *Sun* in the 1 of *Aries* is absent a far longer interval, from the Parallel of the *Sun* in the 1 of *Pisces*, than the Parallel of the *Sun* in the 1 of *Aquarius*, from the Parallel in the 1 of *Capricorn*. Thence it cometh to pass that not much a bigger portion of the Parallel of the 1 of *Aquarius* is above the Horizon, than of the Parallel of the 1 of *Capricorn*, or of the Tropick of *Capricorn* it self. Now these parts shew the stay of the *Sun* above the Horizon in those daies, but the portion of the Æquator, or Parallel of the 1 of *Aries*, that is above the Horizon, is much bigger than the portion of the Parallel of the 1 of *Pisces*. Now because these Arches being above the Horizon, denote the stay of the *Sun* above the Horizon, for this is the Longitude of the day, hence we collect the increase or decrease of the Declination of the *Sun* from the Æquator (or of the Points of the Ecliptick) to be the Cause of this unequal increase of the days, but in the places of the Æquator it self, all days are equal, and therefore here is no increase or decrease: although the *Sun* seem to stand about the days of the *Solstice*, that is a little changing the Meridian Altitude.

Now it is manifest, that the greater inequality of this encrease and decrease of the days is to be found, where the places are more remote from the Æquator, if that the Pole be Elevated for the distance of the divers places from the Æquator; and the Arches of the Parallels Elevated above the Horizon, be considered in both scituations.

Pro-

Propoſition XXV.

In the places of the Torrid Zone, *or thoſe ſcituated in the* Æquator, *or in the midſt of the* Torrid Zone, *the* Sun *much ſooner departeth from the* Vertex, *than in places near the Tropick of* Cancer, *or* Capricorn.

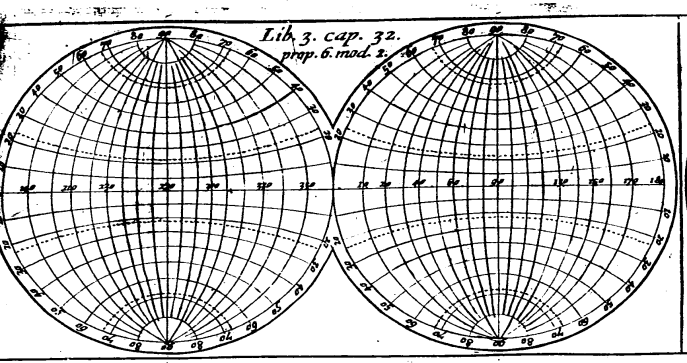
Of the departure of the *Sun* in places of the *Torrid Zone.*

Let any Degree in the *Brazen* Meridian of the Globe be noted, for *Example*, the Fifth Degree from the Æquator, and another place in the Torrid Zone being taken, for *Example*, one whoſe Latitude is 18 Degrees. Let this be brought to the Meridian; make a ſign with a Chalk in this, and let 5 Degrees from this towards the Tropick be reckoned on the *Brazen* Meridian, and here again make a ſign with a Chalk. We muſt ſhew that the *Sun* in fewer days is removed from the *Vertex* of the places of the Æquator, 5 Degrees in the *Meridies*, than from the *Vertex* of another place ſo many Degrees.

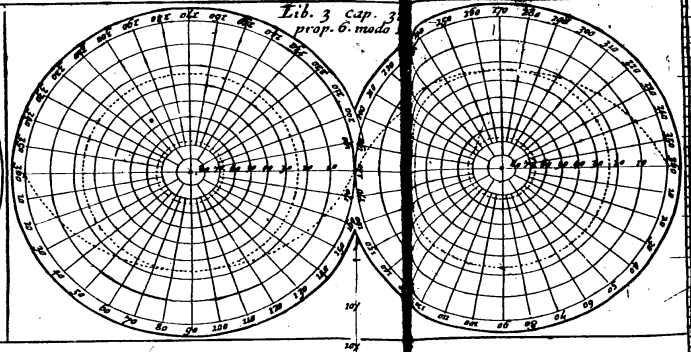
Let the Globe be turned until ſome Point of the Ecliptick come under ſome noted Point of the Meridian near to the Æquator. And let the Degrees of the Ecliptick between the firſt of *Aries* and *Libra*, and between that Point and the Arches here to be noted. Then let the Globe be turned again, until ſome Point of the Ecliptick paſs through the Note made in the Meridian for the place, and let this Point of the Ecliptick be noted: then let the Globe be turned again until another Point of the Ecliptick paſs through by that Point, removed five Degrees which is noted, which muſt again be noted: and let the Arch between the two laſt Points of the Ecliptick be reckoned, which will be found to be much bigger, than that which was firſt noted; and thence the *Sun* ſhall ſtay in this Arch more days than in the former, and therefore he more ſlowly recedeth from the *Vertex* of the ſecond place, than from the *Vertex* of the place taken in the Æquator.

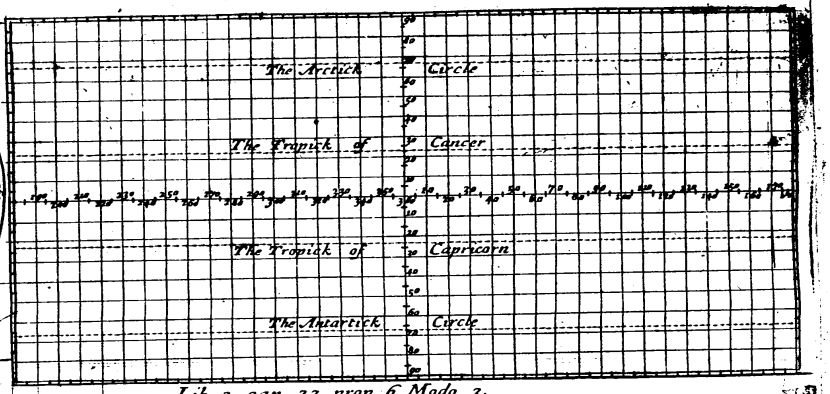
THE

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prop. 6. mod. 2.



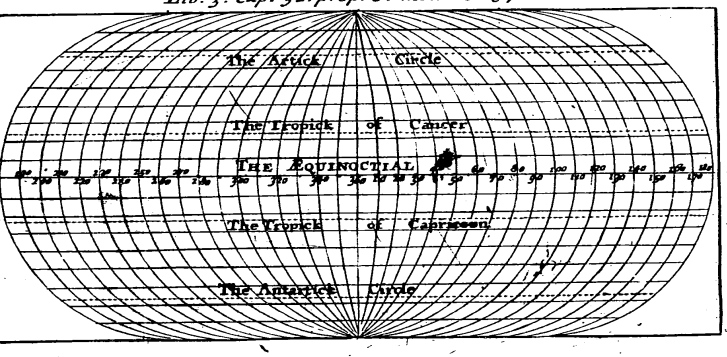
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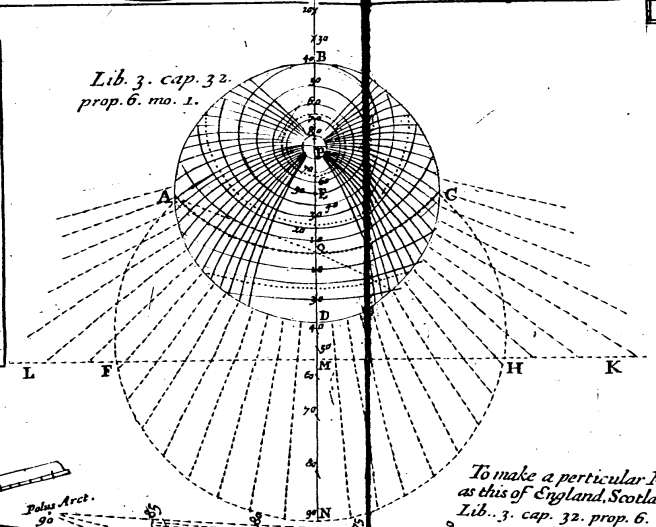


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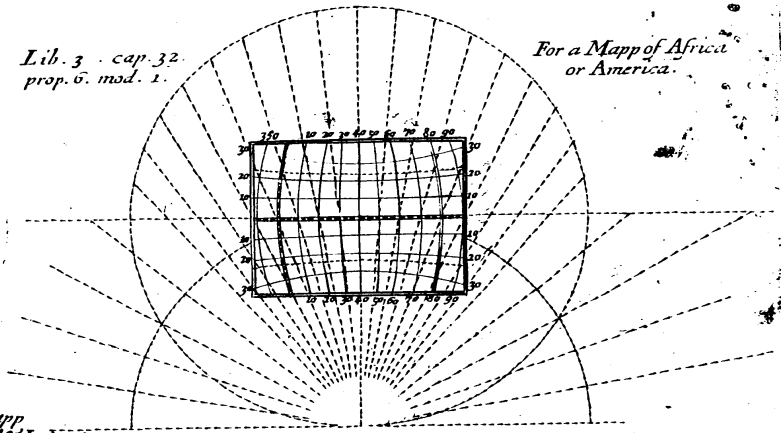


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prop. 6. mo. 1.

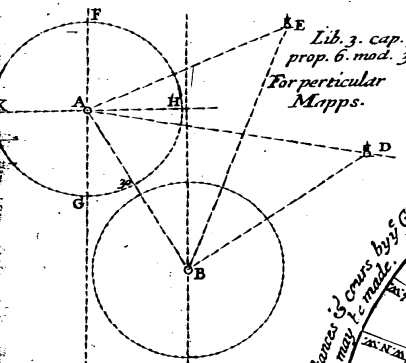


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prop. 6. mod. 1.

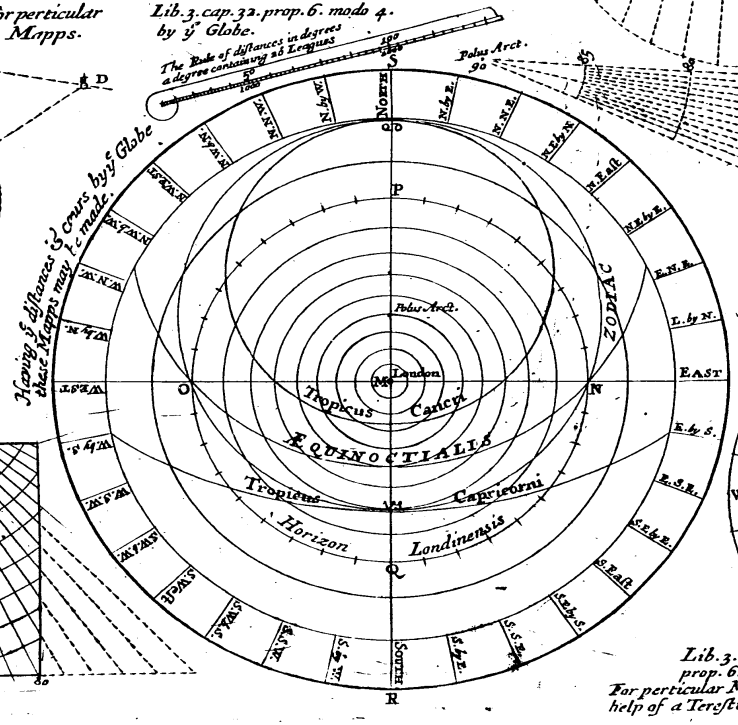
For a Mapp of Africa
or America.



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prop. 6. mod. 3.
For perticular
Mapps.

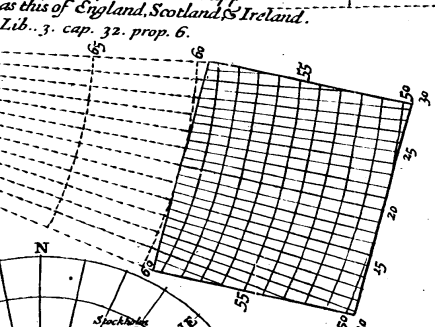


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by y^e Globe.

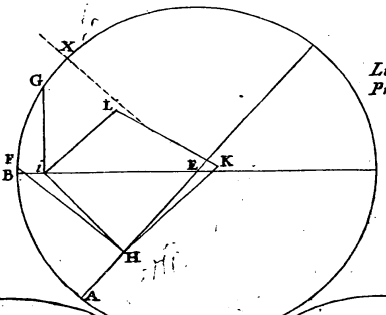


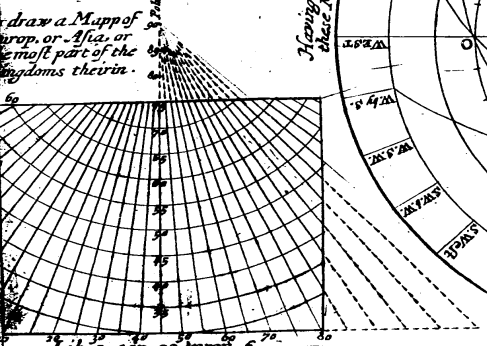
How y^e distances & cours by y^e Globe
drawe Mapps may be made.

To make a perticular Mapp
as this of England, Scotland & Ireland.
Lib. 3. cap. 32. prop. 6.



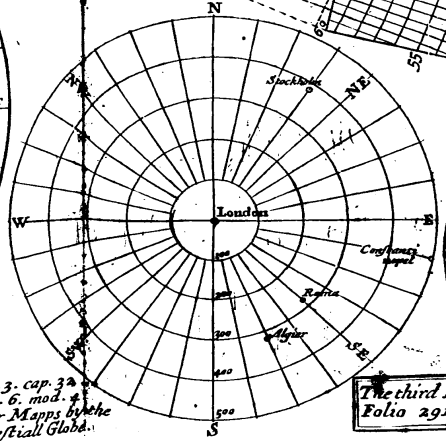
Lib. 3. cap. 33
Prop. 9. Num. 7.





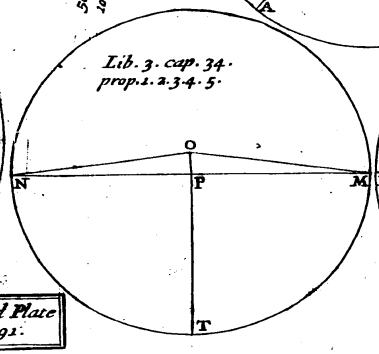
draw a Mapp of
prop. or Asia. or
e most pare of the
ingdoms therin.

Lib. 3. cap. 32. prop. 6

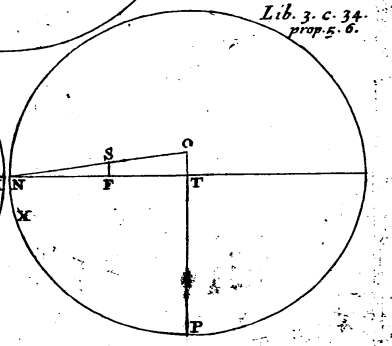


Lib. 3. cap. 32
prop. 6. mod. 4.
For perticular Mapps by the
help of a Terestiall Globe.

Lib. 3. cap. 34.
prop. 1. 2. 3. 4. 5.



Lib. 3. c. 34.
prop. 5. 6.



The third Plate
Folio 291.

THE THIRD BOOK OF General Geography,

TO WIT, THE

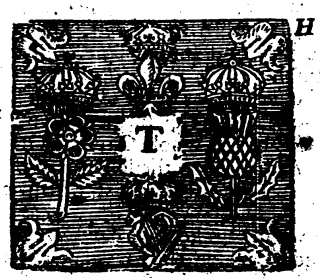
COMPARATIVE PART

Of the Affections from Comparing of Places.

CHAP. XXXI.

Of the Longitude of a place.

Definitions.

1. 

THE *Circle of the Longitude of any place in the Earth*, is a Circle passing through that place, and both the Poles of the Earth. It is also termed the *Meridian* Circle, because the *Meridian* of a place, and the Circle of the Longitude of a place, are one and the same Circle. But they are only rationally distinguished, because the *Meridian* hath respect to the Motion of the Stars; the Circle of the Longitude, to the extension of the Earth; having no respect to the *Celestial* Motions. But the use of the term *Meridian*, is more frequent and convenient, and therefore we shall also use the word. They are conspicuous in Globes, and Maps, passing through every Ten Degrees of the *Æquator*. Definitions.

2. The

2. The distance of a place from a certain Meridian is termed the Longitude of a place, or else it is the Arch of the Æquator, or Parallel intercepted between the Meridian of that place, and a certain other Meridian: This Meridian from which the Meridians of other places are reckoned, from West towards the East, is called the first Meridian. The Longitude of the Earth it self is termed its extension from West to East, conceived according to the Line of the Æquator. The first Meridian in the Maps, and Globes, is notable above the rest for Magnitude, and Colour, and it is apparent to the eyes.

3. The distance of one place from another, is a very short Line intercepted between those two places in the Superficies of the Earth.

4. Any Point in the Globe and Maps, is truly said to represent and exhibit any place of the Earth, if that it hath that Scituation and distance to the other points of the Maps, such as the place of the Earth, which it ought to represent, hath to the other places of the Earth, which are represented by the other Points of the Earth.

Proposition I.

Nature hath put no beginning or end to the dimension of the Earth, or of the extension from the West, to the East, or according to the Æquator, *but all and every one of the places may be taken for a beginning, and the first Meridian may be placed in them.*

No beginning or end of the Dimension of the Earth, &c.

For the better understanding of this, the matter must be more fully searched into, because that some, (I know not upon what account) suppose great mysteries to lie herein, that every Superficies, as well plane as crooked (as a Line by one, and a Body by three) is measured and terminated by two Dimensions, or extensions, as is evident from Principles of *Geometry*, and common use: of which extension one is termed the Longitude of the extension or figure, and the other the Latitude: and the one is conceived perpendicular to the other. Neither do these extensions differ in their nature, but that which we take for Longitude, may also be taken for Latitude, and so on the contrary: but yet for the most part, if these two extensions be unequal, we take the longest for Longitude, and the shortest for Latitude.

But in Ordinate Figures, as in the *Æquilateral Triangle*, a *Quadrate*, and the like, the two extensions are equal; neither is there any difference between Longitude and Latitude. For the Figure of the Superficies of the Earth is Spherical, and Latitude doth not truly differ from Longitude, which we so conceive in it for the more distinct cognition. Now those two extensions in the Spherical Superficies, are commodiously so conceived (as in other crooked Superficies,) if that first the *Periphery* of the Semicircle be taken in it, drawn from one point to the opposite point, and this Line be made one extension of the Superficies, then for the other extension you shall take another *Periphery*, cutting the former *Periphery* in the middle at Right Angles (for so Longitude and Latitude are taken in all Figures) and this must be conceived to extend about the whole Superficies, until it return to it self, that so a crooked Superficies may be supposed to be extended into a plane. Because therefore the first assumed *Periphery*, or extension, is only the Semicircle, that shall be the Latitude of the Globe; the latter, or other extension shall be the Longitude of the Globe, because it is longer than the former extension, as returning into it self, and being the *Periphery* of the whole Circle. Others render another cause of the Appellation; *to wit*, that the lesser part of the Earth was known to the Ancients, from Pole to Pole; the greater from the East to the West.

Concerning the Latitude and Longitude of the Earth, and of places.

Moreover in the Superficies of the Globe, we may take any *Semiperiphery* for the extension of Latitude, and his perpendicular for the extension of Longitude, and therefore we may do the same also on the Superficies of the Earth: but because it is better for memory, if that the *Peripheries* be assumed, whose bounds, or else those *Peripheries* before the other *Peripheries*, which

which have somewhat peculiar in the Superficies, therefore in the Superficies of the Earth for the extension of Latitude, some one *Periphery* is deservedly taken, drawn amongst the Poles of the Earth, and because no other *Periphery* is perpendicular to this *Periphery*, which may pass together through its *Medium*, except the Line of the *Æquator*, therefore the *Æquator* it self must be taken for the extension of the Longitude of the Earth.

So I think it is clearly explained, for what reason the Latitude of the Earth between the Poles is measured for Longitude by the assumed Line of the *Æquator*. This Latitude and Longitude of the Earth must not be confounded with the Latitude and Longitude of places, or Points in the Earth, therefore they are expressed by the same terms, because the Latitude of places, or Points, is taken in the *Periphery* of the Latitude of the Earth it self, and is part of it; but the Longitude of places or Points is taken in the *Periphery* of the Longitude of the Earth, *viz.* in the *Æquator* it self, and its Parallels.

Yet this is an improper acceptation of the terms, because Latitude and Longitude properly (as hath been said) only agreeth to the Figures and Superficies: but a Point hath neither Latitude, nor Longitude; and therefore this different acceptation of the words, Latitude and Longitude, ought to be observed, because they are so frequently met with in the reading of *Geographers*, viz. the *use and acceptation otherwise* when we say, the Latitude and Longitude of *France*, *Spain*, and the like. Because then the *words* are taken in their proper signification: for it is the Figure of *France*, or *Spain*, and so Longitude then signifieth the outmost or longest extension, but Latitude the shortest; which acceptation doth agree with that, wherein we said before that so much Latitude and so much Longitude must be assigned to the Superficies of the Earth. But the *signification* is otherwise, when we say, the Latitude or Longitude of this place, if by places we understand any Point, City, or Famous Place, because then, Latitude denoteth the distance of the place from the *Æquator*; and the Longitude its distance from a certain Meridian. And indeed in my Judgment, for the avoyding of confusion, it were better to abstain from the use of these *words*, Longitude and Latitude, and to use these in their stead, the distance from the *Æquator*, and the distance from the Meridian: but seeing that for so many Ages this hath been received, therefore it will be a hard matter to abolish it, wherefore in the following Discourse I shall also use the said terms, Latitude and Longitude.

The Authors Judgment about the words Latitude, and Longitude.

Moreover the Latitude of a place, as the Latitude of the whole Earth, hath some noted Points of the Earth for the beginning of the *Numeration*, *viz.* the Poles and the *Æquator*: but the Longitude of the Earth, because it is extended about the whole Earth, hath no certain beginning, or end, but the beginning and end is every where, because the *Periphery* is like to an infinite Line. Wherefore any Point of the *Æquator* may be taken for the beginning of the Longitude of the Earth, and the Meridian passing through that Point, for the first Meridian, from whence the Meridians of all the Points of the Earth are numbred, or the Longitude of them Calculated.

Now why we require these two distances in every Point of the Earth, *viz.* one from the *Æquator*, and the other from a certain Meridian, shall be shewed in the Third *Proposition*.

Proposition II.

To place and determinate the first Meridian, *and the beginning of the Numeration for the Longitude of the places in the Globe of the Earth.*

We have said in the preceding *Proposition* that every Point of the *Æquator* may be taken for the beginning of the extension of the Earth according to Longitude, and that from its Meridian the Longitudes of places must be reckoned, but because we cannot take all indifferent, it is better to fix one beginning, or to choose some certain Point, (but that is left to the choice of persons). Therefore *Geographers* have taken a certain place in the Superficies of the Earth, through which the first Meridian shall be drawn, and should shew in the *Æquator*, where it cutteth it, this beginning or reckoning of the Longitude of places. But all have

See Proposition I.

not taken the same place for the first Meridian, but divers. *Ptolomy* hath taken that near to the *Fortunate Islands*, which he removeth but only one *deg.* from the first, and hence towards the *Oriental quarter* through *Africa*, and *Asia*, he reckoneth the rest of the Meridians, and *Longitude* of places. For seeing it was less free to place a beginning, the Ancients chose rather to have an account of the places of the Earth, which they knew were inhabited, which portion doth not return into it self, as the Superficies of the Earth, and therefore in that portion or part a beginning of *Longitude* and end may be assigned in another Point. Because therefore in the time of *Ptolomy* the *Fortunate Isles*, where the ultimate ones in the *Occidental Quarter* of all the Earth, or Lands then known: Therefore from that bound *Ptolomy* beginneth to reckon the *Longitude* of the Earth, and having gone forwards to the *Oriental Regions*, he maketh the end of his *Numeration* of the Meridians, in *Sina*, the ultimate Shoar of *Asia*.

The Longitude of places where begun by *Ptolomy*.

But in process of time many *Regions* of the Earth were found to be Inhabited towards the *Occid.* and *America* was discovered, then some *Geographers* promoted the beginning of *Numeration* of *Longitude* towards the *Occid.* For some made the first Meridian at the *Isle* of St. *Nicholas*, adjacent to *Cape Verd* in *Africa*; but *Hondius* chose the *Isle* of St. *Jannes* in his *Maps*.

The Longitude of places where begun by *Hondius*, *Mercator*, and others.

Some chose the Meridian of one of the *Islands* of the *Azores*, which is called *Del Corvo* for the first Meridian, because that in this *Isle*, and the adjoyning *Sea*, the *Magnetick Needle* is found to have no Declination from the Meridian Line, and that it sheweth the Northern and Southern *quarter*. *Mercator* hath observed the beginning also in his *Maps*.

But seeing that there are other places in the Earth, where the *Magnetick Needle* doth the same, neither doth it do it in all the Meridian of this place, therefore other *Geographers* have not thought that Cause sufficient: and some have placed the first Meridian in the *Brazilian* Shore: the more Modern, especially the *Hollanders* having gone back to the *Fortunate*, or *Canary Isles*, have chose in one of them called *Teneriffe*, a Mountain which is thought to be the highest in the whole World, called *El pico de Teneriffe*, and from the Meridian of this Mountain, they judge the *Numeration* of the *Longitude* of places ought to be begun, because they think fit that a Famous and durable place for all Ages may be best chosen for this purpose, concerning which in Ages to come, Posterity should not easily doubt, and moreover that that assignation of *Ptolomy*, which hath been observed for so many Ages, should not be deserted on a trivial account. The *French* at this day, from the Year 1634, observe that for the first Meridian which passeth through the *Occidental* part of the *Isle* of *Fer*, one of the *Canary Isles*. Which beginning *Lewis* the XIII King of *France*, commanded his *Mariners* and *Geographers* to observe.

The Longitude by the *Hollanders* begun at *Teneriffe*.

The Longitude by the *French* begun at the Isle of *Fer*, in the *Canarits*.

Astronomers also take divers places for the first Meridian. For those who follow *Tycho*, are wont to place it at *Uranoburge*, scituate in an *Island* in the *Danish Sea*, and at this place to compute their *Celestial motions*, and thence to other places. Others make other beginnings as they follow this or that Author of the *Ephemerides*. For the Writers of *Ephemerides*, as also the *computers* of the *Planetary Tables*, are wont to calculate the *motions* and appearances of the *Planets*, to the Meridians of their own *Country*, as *Origanus* to *Frankford*, *Maginus* to *Venice*, (because that *Padua* is an Academy of the *Venetians*). *Ecstadius* to *Stetin*, *Lansbergius* to *Goesa* in *Zeland*, *Reinholdus* to *Regium* a *Mountain* of *Borussia*.

The Longitude likewise begun in sundry places by *Astronomers*.

But to speak freely what I think, all this dissent of Authours proceedeth from no sufficient Cause, so that those who first removed the *Ptolomaick beginning* out of its place are blame worthy. But it is allone, whatsoever beginning of this account is taken in the Earth, whether the place be noted, or the *ultimate* to the *Occident*, or *Orient*, so that the scituation and distance of the other places be accurately known as it. Yet this variety of the beginning of the Meridians expresseth the reading of *Geographical Writers* with many confusions and difficulties. Yet because the knowledge of the Declination of the *Loadstone*, is of great utility, and that that Declination encreaseth even to a certain *Meridian*, and then again decreaseth, I think it not altogether inconvenient for the observation of the Declination of the *Load stone*, and the more easy comparison of the increase or decrease of it, if that that be taken for the first *Meridian*, in which the *Magnetick Needle* maketh little or no Declination, so that such a *Meridian* might be given, *viz.* in all the places of which, or the most at least, the *Magnetick Needle* would do it.

But seeing that the *Hollanders* at this time take the Mountain of *Teneriffe*, for the beginning of their *Longitude*, and that they Sail at this day into all parts of the World, therefore it is convenient to acknowledge the same beginning with them for the better understanding of the *Diaries* that they are wont to publish.

Now you must know that the Reading of Authours, where mention is made of the *Longitude* of a Place, or of a certain numbred *Meridian*, that then you ought to consider, what beginning of *Longitude* that Author determineth, or through what place he bringeth his first *Meridian*, (*as you are to observe that the Maps which are used in the Second Part of this Book, being the* Geographical *Description of the parts and places of the Four Parts of the World, the Longitude I say of those places, are taken according to the* French *Account, beginning at the* Isle *of* of Fer, *being one of the* Canary Isles, *they being Composed by* Monsieur Sanson, Geographer *to the King of* France, *and whose Method is not convenient to be allow'd*), for to that the *Longitude* of other places must be brought and inquired of.

Proposition III.

The Latitude and Longitude of any place, or the distance of any place from the Æquator, *or a certain* Meridian *being given, which is found in the Maps, or Globes, to exhibit the scituation and Point of that place on the Maps, or Globes.* Or thus, *If that we be in any place of the World (either at* Land *or* Sea) *which is unknown unto us, or whose scituation we are ignorant of, to the other parts of the Earth, so that if we can find the Latitude and Longitude of this place, thence to find out the scituation of this place in the Earth, and its distance from other places.*

This is that *Problem* for which a Method is sought so anxiously, and with so great industry, by which the *Longitude* of a place at any time in which we are in it may be found, and therefore although we should first treat of the invention of this *Longitude*, yet I thought it fitter to premise the *Problem* it self, for which that *Longitude* is sought for, and that for this reason, seeing that we must treat largely of this *Longitude*, least you should be cloyed, not knowing to what end so great a labour is undertaken, and so many various ways tryed.

For *Mariners* having Sailed far from the Shoar, and being in the *Ocean*, because they cannot accurately know the way of their Voyage made, by reason of the divers hindrances, and note it in their *Maps*, are often ignorant in what place of the Earth they are, what scituation this place hath to those places whither they go, or what places are to be gone to, if that they will avoid danger, and therefore also they are ignorant unto what *quarter* they must direct their course. Unto the knowledge of which there is no more ready a Method, than for to certainly find the *Longitude*, and *Latitude* of the place, that is, its distance from the *Æquator*, and some certain *Meridian* of the Earth. And *Mathematicians* have taught them, with no great difficulty by divers ways to find out the *Latitude* of a place in the day by the *Sun*, and in the night by the *Stars*. Such Modes we have shewed before, (for those who think to know it only by the help of the Compass, sufficiently discovered their ignorance;) from which *Latitude* being found, they know in what Parallel of the Earth they are, which indeed is no small part of the demand. But seeing that the Points of the Parallel are infinite, they do not yet know from the knowledge of this *Latitude* in what Point of the Parallel they are: this they would

The Longitude and Latitude of places, of great importance to Mariners to know.

tain, if that they knew in what Meridian they were, or how many *degrees* this Meridian is distant from some Meridian of other places. For this Meridian cutteth the Parallel before found, that Point is the place wherein they are. For so it is observed in all *Mathematical Disciplines*, that when it is demanded concerning the place of any Point, that for the most part is no otherwise found than by the Section of two *Lines*.

Therefore let the Latitude or Longitude of any place, or Point scituated in the Superficies of the Earth be known, the scituation of the place or Point will be found thus in the Globe.

Let the *deg.* of Latitude from the *Æquator* be numbred in the *Brazen* Meridian, and at the term of the *Numeration*, let the Parallel of the place, or Circle of Latitude, be described by a Chalk applyed. Thus it is certain from the found out Latitude, that we are in some Point of it, or that some Point of it is that which is sought for. And this Point moreover is known from the found out Longitude, for let the Meridian or place, from which that Longitude is reckoned be brought under the *Brazen* Meridian (if that the Meridian pass through the beginning of this *Numeration*, or if the first Meridian of the Globe be that beginning, then it is not necessary to bring it to the *Brazen* Meridian) and let the *deg.* of the known Longitude, be numbred in the *Æquator* for that Point, which is in the Meridian, towards the West, or East, as the Longitude is given. Let the term of the *Numeration* be brought to the *Brazen* Meridian (except some Meridian pass through it) so this Meridian shall represent the Meridian in which the Point sought, or place unknown is necessarily scituated. And the Parallel is before found, in which the same demanded Point hath been shown to be scituated. Wherefore the sought place is that Point where the found out Meridian, and the before found out Parallel mutually cut one another, *viz.* that Point of the Parallel which is discovered under the *Brazen* Meridian: The practice is easy after this Mode.

Let the *degrees* of the given Longitude be numbred in the *Æquator*, from that Point *which is the beginning of the given* Longitude: *Let the term of the* Numeration *be brought to the* Brazen Meridian, and let the Degrees of the Latitude *given be reckoned from the* Æquator *in the* Meridian. *The term of this* Numeration *is the* place *sought, or the term of the* Point, *in which the* place *unknown lyeth.*

Mariners make use of Maps or Charts consisting of streight Lines.

It is thus shewed on *Maps*, consisting of *streight Lines*, as all *Mariners Maps* are: the *degrees* of Latitude are reckoned in the *Lines* descending, or side *Lines*, and the Rule being applyed, the Parallel of the place is drawn, in which it is certain that the unknown place lyeth. Then in the *transverse lines* above and beneath, the Longitude is reckoned, and the Rule being applyed, the Meridian Line is drawn, where this cutteth the former, that is the Point of the place sought for. But more expeditiously thus: the Rule being applyed to the *degrees* of Longitude given in the *tranverse lines*, then one or other part is taken from the interval of the *Compass* in the *Lateral line*, which lyeth between the given *degree* of Latitude, and the upper or lower Point, and this interval or space of the *Compass* being fitted to the Rule, presently you have the place of the Point sought for in the *Map*. Therefore the scituation of this is beheld at once in all places; hence it is easy to gather unto what *quarter* the Ship must Sail, and direct her Course, if that they intend to arrive at this or that place.

Of Maps of Crooked Lines.

We act after the same Mode in *Maps* of *Crooked lines*, except only that we are forced to draw *Crooked lines* in *streight lines*. This is the principal use of the found out Latitude of the *Mariners Art*.

The second and greatest use, is the making of *Globes* and *Maps*, because after the same Mode in which we have shewed by Longitude, and Latitude known, all the places are made in the *Globes* and *Maps*, as shall be shewed in the following *Proposition*. For it would be impossible to make a *Terrestrial Globe*, except the Longitude of places had been found out and known. And thence it cometh to pass, that *Globes*, and *Maps*, may attribute many places to a false place, because their true Latitude was not known.

The

The third use of the known Latitude of places is also notable, *viz.* that by that we easily know the variety of times in divers places, and in what hour, or in what part of an hour every one of the *Celestial Phænomena*'s are beheld in divers Regions, of which I shall speak in the next *Proposition*.

The fourth use, is that from the difference of the Longitude of two places, and Latitude, the distance of places is found. Now we come to the Method of finding of it.

Proposition IV.

The Sun, Stars, *and all the Points conceived in the Heaven (as the Points of the* Æquator, *and* Parallels) *are every hour removed, or recede 15 degrees from the* Meridian *of any place, in one scruple of an hour* $\frac{1}{60}$ *they are removed 15 minutes, and so in 4 scruples of an hour they recede one degree*, viz. *the distance being taken in the* Parallel *of any* Star.

The Sun, Stars, and all the Points conceived in the Heavens, are every hour removed 15 degrees from the Meridian of any place.

An hour is the 24*th* part of time, in which the *Sun* being carried from the Meridian of any place, to the Occident through the lower Heaven, and the *Oriental* Horizon, returneth to the Meridian again, that is, he is circumvolved through an whole *Periphery*. Now a *Periphery* is accounted by 360, and if you divide 360 by 24, you shall find that 15 *degrees* do answer to one hour. Therefore the *Sun* in one hour is removed 15 *deg.* from the Meridian of any place, all the *Stars* also are found at the same time to be wheeled round with the *Sun*, through an whole *Periphery* to the Meridian. Wherefore they also depart from the Meridian every hour 15 *deg.* and in 4 scruples of an hour one *deg.*

This may be shewed or demonstrated on the Globe. For let any Point of the *Æquator* be noted, and that being brought to the Meridian, let the Index be placed at the 12*th* hour of the Circle. Then let the Globe be turned until the Index shew the first hour, and you shall find that the noted Point of the *Æquator*, hath departed 15 *deg.* from the Meridian, or, as we commonly say, the Meridian hath passed 15 *deg.* of the *Æquator*: if you then again turn the Globe until the Index shew the 2*d*, 3*d*, or 4*th* hour, you shall find in every noted hour, that the Point hath departed from the Meridian 15 *degrees*. After the same Mode we shall find the same in any Parallel, which the *Sun* and *Stars* do describe by a Diurnal Motion without the *Æquator*.

Proposition V.

The given hours being given at one and the same time, or at one and the same Celestial appearance, as also the Horary *minutes of our place, and that of the other place; to find out how many degrees the* Meridian *of our place is distant from the* Meridian *of the other place, that is to find the Longitude of our place from that place.*

The solution is easy from what hath been said already, by reason that it hath been shewed, that if one place anticipateth one hour of the account of the other place, the Meridian of that is more *Oriental* than the Meridian of this, by 15 *degrees*; if two hours by 30 *degrees*; if three hours by 45 *degrees*.

Let therefore the difference of the given hours, be changed into the *degrees*, and Minutes of the *Æquator*, *viz.* reckoning for every hour 15 *degrees*; for $\frac{1}{4}$ of an hour, 3 *degrees*, 45 Minutes; for one scruple of an hour 1 *degree*. The found out *degrees* and Minutes, will shew the distance of the Meridians, *viz.* if that the hours of our place be more than the hours of the other place, our Meridian shall be scituated towards the East from the other; if fewer, towards the West.

Pro-

Propoſition VI.

Again hours and ſcruples of hours of divers places being given at one and the ſame time; or at the time of one and the ſame Celeſtial appearance, and one place, or one Meridian *of one place being given in the Maps, or Globes, to exhibit alſo the* Meridian *or Longitude of another place on the Globe or Maps.*

Further concerning the Longitude of places.

Let the difference of hours, and ſcruples of hours be changed into the Degrees and Minutes of the *Æquator*. Then conſider, whether the hours of this place, whoſe Meridian is given on the Globe, and the Maps be fewer or more than that of the other place, whoſe Meridian is ſought for. If fewer, this other Meridian ſhall be ſcituated from the given Meridian, towards the Eaſt; if more towards the Weſt. Let it be brought to the *Braxen* Meridian (except ſome other Meridian paſs through it) and let the Degrees and Minutes found from the difference of the hours be numbred from the Point of the *Æquator*, together being in the Meridian, and that towards the Weſt, or Eaſt, as we collect the ſcituation of the other place (it is more eaſily done by the *Horary* Index applyed to 12, and the Globe being turned round until the Index ſhew the difference of the hours). Let the term of the account be noted with Chalk, and brought under the Meridian: ſo this *Braxen* Meridian ſhall be the Meridian ſought, and the Point of the *Æquator* ſhall ſhew its Longitude.

In Maps let the ſame Degrees and Minutes be numbred from the given Meridian in *tranverſe lines* above and below, and the Rule being applyed, let the *Line* be drawn (for in *right lined* Maps, as ſuch as thoſe of *Mariners*, is the chief of this *Problem*) this *Line* ſhall be the ſought for Meridian.

Propoſition. VII.

To find the Longitude of an unknown place, in which we are, or to find the diſtance of the Meridian *in which we are, from ſome known* Meridian, *or whoſe ſcituation is or may be expreſſed on the Maps, or Globes.*

Of the finding out of the Longitude of an unknown place in which we are.

This is that *Problem* whoſe ſolution *Seamen* ſo much expect from the *Mathematicians*, which would render the Art of Navigation almoſt perfect, and ſubject to no Errour, which hath exerciſed for this two Ages the wits of ſo many great perſons, for the reſolving of which, the *Engliſh*, *French*, *Dutch*, have every one appointed a donative of 50000 *Florens* to him who ſhall exhibit a reſolution: the *Dutch* and *German Mariners* are wont ſometimes to expound the *Problem* according to the *Latine phraſe*: but ſometimes they uſe another, as if you ſhould ſay, to ſeek the *Oriental* and *Occidental quarter*, which *phraſe* is very void of the matter; ſo that it is manifeſt what a power the Vulgar have taken in introducing new phraſes, though very improper. For by this phraſe it cometh to paſs that perſons unskilful in *Geography*, and *Navigation*, are ignorant what the *Mariners* mean, when they ſpeak of finding out the Eaſt, and Weſt: for moſt think, that they ſeek what the words import, *viz.* the Eaſtern and Weſtern *quarter*, which yet is falſe and unworthy the demand. For they know theſe *quarters* when they are in any place of the *Sea*, by the benefit of the ſame *Magnetick Needle*, which ſheweth the North and South. Becauſe in the *Mariners Compaſs* all the *quarters* are noted, and without the *Compaſs* the *Plaga* of the North and South, being known, it is moſt eaſy to ſhew the *quarter* of the Eaſt, and Weſt; for the face being turned towards the North, the Eaſt is on the right hand, the Weſt on the left: on the contrary, the face being turned towards the South, the Eaſt is on the left hand, and the Weſt on the right. But this is not the demand, but the Longitude of the place is that required; that is, how much in the Arch of the *Æquator* the Meridian of this place is removed towards the Weſt, or Eaſt, from any certain Meridian. But why, may ſome ſay, do *Mariners* aſſume ſo improper a phraſe? The reaſon is, that the Vulgar do conceive almoſt all things confuſedly, and only Superficially, and from a ſmall ſimilitude with other things impoſe Names and *Phraſes*, as is manifeſt from the appellation of *America*, which they Vulgarly term the Weſt *Indies*, becauſe that after the diſcovery of *India*, (properly ſo called) that was alſo found. This might be inſtanced by many more Examples, and ſo it is with this *phraſe*, to ſeek the Eaſt and Weſt. But ſeeing that this *Problem* to find out the North and South, is reſolved by the *Magnetick Needle*, and alſo the *Problem* of finding out the Longitude of a place is of very great Moment, and Mariners deſire to have as eaſy a Method to know the ſame, as that of the Latitude of a place, and moreover that Longitude is reckoned from the Weſt, to the Eaſt in the *Æquator*; therefore by reaſon of this ſlight ſimilitude, and account, they have taken up this *phraſe*, to find the Eaſt and Weſt, when here no *quarter* is ſought for, but only the diſtance of the Meridians. This is convenient to explain, by reaſon that many were brought into an Error, and falſe Conception of the ſame, or at leaſt were ignorant, what was ſignifyed by the *phraſe*.

Longitude reckoned from the Weſt to the Eaſt in the *Æquator*.

It is eaſy as is ſhewed aforeſaid, from the difference of hours, to ſhew, or find out the Longitude of one place from another. Therefore in *Calendars*, and *Ephemerides*, (by the ſignal Benefit, and liberality of *Aſtronomy*) we have ſet down for every day and hour, all the *Phænomena* of any place, and the Motions of the *Planets*, as the beginning, the middle, the end of an *Eclipſe*; alſo the Conjunction of the Moon with other *Planets*, her entrance into the *Ecliptick*. Therefore being in the place of an unknown Longitude, if we enquire the hour in which we behold the ſame *Phænomena* in this place, we ſhall thence find the difference of our hour, from the hour of that place unto which the *Tables* are Calculated; and hence moreover the diſtance of the Meridian from the Meridian in which we are, or whoſe hours the *Tables* ſhew us, and ſo we have the demanded Longitude of the place. Neither doth the difficulty conſiſt in the finding of the hour, and *Horary* ſcruples, for they are eaſily known from the *quarter* or *Altitude* of the *Sun* or *Stars*; but the difficulty is in the defect of ſuch *Celeſtial appearances*, which may be ſo obſerved.

Now although there be alſo other Modes, by which without the knowledge of the hours, and conſideration of the *Planetary motions*, the Longitude of a place may be inquired, yet they have no place here, by reaſon that they do not firſt ſhew the Longitude, but the place it ſelf, and require other things which are equally unknown in thoſe caſes with the Longitude, which Modes we ſhall explain in the following diſcourſe. But now we ſeek ſuch Modes, in which that Longitude of the place may be found, where the ſcituation of the place is unknown. All which Modes preſuppoſe a knowledge and comparison of the time in which any appearance of the *Planetary motion* is beheld in divers places. But thoſe Motions are unfit for this buſineſs which are very ſlow, ſo that in many hours none, or little difference is found in the place of thoſe *Planets*. For Example, *Saturn* maketh his Progreſs in the *Ecliptick*, in the ſpace of one hour. Therefore although from the *Ephemerides* we may have the time, and the hour which is in that place when that *Saturn* is in the *Ecliptick*, yet becauſe that he moveth very ſlowly, thence it cometh to paſs, that if you obſerve, he ſeemeth to ſtay many hours in the ſame place, and therefore that Moment of the hour cannot be known in the place where we are, ſeeing that they ſtay in the very *minute*, and therefore they cannot alſo compare the hour of our place, with the hour of the place of the *Tables*.

The Motion of the *Sun* in the *Ecliptick*.

So the *Sun* goeth forwards every hour in the *Ecliptick* about a 1 firſt *minutes*, (becauſe in an whole day it goeth forwards about one *degree*) which Motion is over ſlow for this buſineſs, by reaſon that although obſervations may be very accurately made at the beginning and end of the hour, yet the ſame place of the *Sun* ſhall be found, and therefore the Error of two or three hours may eaſily happen. For you muſt know, that the Modes ought to be ſuch that in the very ſearch of the 15th part of an hour, an error may

may be avoyded, that is, that that *Celeſtial Phænomenon*, which is made uſe of for the finding of the ſame, may ſenſibly be varied within two *ſcruples* of an hour; for if at or between two *ſcruples* of an hour, it remaineth altogether the ſame both as to ſenſe and diligent obſervation, we cannot be certain of that part of an hour, in which that happeneth truly in the Heaven, and if we err two *ſcruples* of an hour in the obſervation, then an errour of half a *degree* will ſlip into the *Longitude*; ſo that we will ſuppoſe that our Meridian in which we are, and note it in the *Maps*, and *Globes*, which is not the true one, but removed from the true one in the *Æquator* half a *deg*. Therefore they are ſuch *Phænomenons* of the *Planets*, which within two *ſcruples* of an hour, or elſe at one *ſcruple*, or if poſſible, at half a *ſcruple* may be varied. But of ſuch there are none but theſe. 1. The beginning of the *Eclipſe* of the Moon, the middle, and the end. 2. The *Longitude*, or place of the Moon in the *Zodiack*. 3. The *diſtance* of the Moon from the fixed *Stars*, or her appulſe towards them. 4. The *ingreſs* of the Moon into the *Ecliptick*, or into the Points of her Circle, where this cutteth the *Ecliptick*; And 5. The *Conjunction*, *Diſtance*, and *Eclipſes* of the *Jovial Planets*, *viz.* of thoſe Four *Planets* which are found in this our Age, to make a Circuit about *Jupiter*. Whence the *Copernican Hypotheſis* hath obtained a great deal of Confirmation.

The firſt Mode by the Eclipſe of the Moon.

Of the Eclipſe of the Moon. First Mode.

This Mode is very accurate if that their could happen but *Eclipſes* every night. At the time wherein we behold the beginning or end of the *Lunary Eclipſe* by the help of the *Teleſcope*, then I ſay, let the *Altitude*, or *Plaga* of any fixed *Star* be obſerved, and alſo let the Elevation of the *Pole* be before found out, or let it together be ſought for from ſome *Star* in the Meridian. From the *Altitude* of the *Star*, the hour with the *ſcruples*, is accurately enough found, as we ſhall ſhew from *Aſtronomy*, and more eaſily without the invention of *Altitude*, if the *Star* be in the Meridian. Let this hour ſo found out with the *ſcruples*, be compared with the hour and *ſcruples* in which the *Ephemerides* exhibit the beginning of the *Eclipſe*, or the middle, (which hours reſpect the Meridian, unto which the *Ephimerides* are Calculated) for ſo the hour of two places is found at the ſame time, or at the ſame *Celeſtial appearance*, *viz.* the hour of our place, and of the Meridian of the *Ephemerides*: and the Meridian of the *Ephemerides* is known. Therefore we ſhall find the *Longitude* of our place from the Meridian of the *Ephemerides*, if we change the difference of the hours of both places into the *degrees* and Minutes of the *Æquator*, as we have ſaid in the V. *Propoſition*. And becauſe in *Maps* given, and in the *Globe*, the given Meridian of the *Ephemerides* is known, or may be ſhewed with little labour, therefore we muſt reckon the *degrees* found out from it in the *tranſverſe lines* of the *Maps*, towards the Weſt, or Eaſt, as the hour of our place, or of the place unknown ſhall be more, or fewer than the hours of the Meridian of the *Ephemerides* and the Meridian Line ſhall be brought through the term of the *Numeration*. That is the Meridian of the place in which we then are, or in which the obſervation of the *Ecliptick* was made.

The ſecond Mode by the place of the Moon in the Zodiack.

The ſecond Mode.

Although the preceeding Mode, by the *Eclipſe* of the Moon performing the buſineſs, be moſt accurate, yet becauſe thoſe *Eclipſes* are very rare, neither are all conſpicuous in all places, therefore this Mode doth not reſolve the buſineſs ſufficiently, neither can it help the *Mariners* in the wide *Ocean*, but it is more convenient to the conſtituting and finding out the hours of the *Terreſtrial places*, where *Mathematicians* are, or may go, and the *Longitudes* of almoſt all places which we know are found out by this Mode. For from the noted comparation of the time, in which the beginning, or middle of the *Eclipſe* was diſcovered, it is eaſy to find out the *Longitude* of one place from another, as I think is ſufficiently explained. But the uſe of *Mariners* requireth

reth a *Phænomenon* or appearance, *viz.* which may happen every night at the leaſt (if not in the days) becauſe it can happen in every night, ſo that they may be in an unknown place, as deceived by *Tempeſts*. But the more frequent *Phænomenon* is the place of the Moon in the *Zodiack*, but a very trobleſom obſervation is required by reaſon of two fold *Parallaxes*, ſo that you can hardly avoid a ſmall error, if at leaſt a great one of half, or an whole hour be ſhunned, whence a falſe Meridian is found removed from a true many miles; *viz.* a hundred and more. Yet you will be ſubject to the leſſer error, if that you expect the moment of the hour in which the Moon is in the Meridian: for then the place is accurately enough found after this Mode. When you have obſerved that the Moon is come into the Meridian of the place where you are, then you muſt preſently take the noted *Altitude* of ſome *Star*, and from this, and the Elevation of the Pole, you may enquire the hour: but it is better to do it by ſome *Star* then in the Meridian, as we ſhall hereafter ſhew. Moreover from the known hour is found what Point of the *Ecliptick*, or *Zodiack*, is then in the Meridian, or that poſſeſſeth the middle of Heaven (as *Aſtronomers* ſpeak) which alſo is eaſy as we ſhall ſhew anon. So at the hour of our place, or of the unknown place, we ſhall have the known place of the Moon in the *Zodiack*. Then from the *Tables* of the *Ephemerides* let the hour be found, which is in the Meridian of the *Ephemerides*, where the *Sun* is in the place of the *Zodiack*, which is taught in the Introduction of the *Ephemerides*, neither is it difficult. And ſo again we ſhall have the hours of two places at the ſame time, *viz.* of the place in which we are, whoſe *Longitude* is unknown, and of the place, unto whoſe Meridian the *Ephemerides* are Calculated, and whoſe ſcituation is in *Maps* and *Globes*. Wherefore from the difference of time the *Longitude* of our place ſought for ſhall be found, as is ſufficiently demonſtrated in the preceeding Mode.

It is preſuppoſed that the Elevation of the Pole is before found.

The third Mode, by the diſtance of the Moon *from ſome fixed* Star.

The third Mode of the Moon.

By reaſon that we cannot obſerve the Moon in the Meridian many nights, *viz.* when ſhe is not much removed from the *Sun*, after and before the New Moon, and therefore this appearance is not ſo frequent as the *Mariners* uſe requireth, Therefore ſome do conſider another *Phænomenon* in the *motion* of the Moon, which is more frequent, and from thence the Mode in finding out the *Longitude* is delivered, *viz.* the drawing near, and departing of the Moon from the fixed *Stars*; for from thence the true place of the Moon may be obſerved at the given moment of the obſervation. But the Calculation is ſo difficult by reaſon of the *Parallaxes*, and the ſolution of the *Oblique Spherical Triangles*, and other hazards, that it can neither ſerve *Mariners*, nor will I burthen you with its Precepts, but rather omit it. For it requireth a *Genius* moſt expert in Calculation.

The fourth Mode by the entrance of the Moon *into the Ecliptick.*

The fourth Mode of the Moon.

The *path* of the Moon cutteth the Ecliptick in two *points*, in which when it cometh by its own proper *motion*, ſhe is then in the Ecliptick, but at other times it is moved out of it by a great departure of 5 *degrees*. Therefore you muſt obſerve exactly the time in the place of the unknown *Longitude*, in which the Moon toucheth the Ecliptick. Moreover from the *Ephemerides*, let the hour be taken at the Meridian of the *Ephemerides*, in which that entrance is made. Then from the compariſon of our time, or of the place unknown, with the time of the Meridian of the *Ephemerides*, you have the difference of time, whence the *Longitude* of the place, which is ours may be found from the Meridian of the *Ephemerides*. But this Mode alſo by reaſon of the difficult practice is to be eſteemed uſeleſs. For the entrance of the Moon into the Ecliptick is difficult to be obſerved, and the Calculation is very intricate, and ſubject to error.

The fifth Mode by the Jovial Planets.

The fifth Mode by the Jovial Planets.

Many judge this *Phænomenon* to be prefered before the *Phænomenons* of the Moon in this affair, becauſe that theſe *Jovial* attendants are not ſubject to *Parallaxes*; and moreover in every ſcituation of *Jupiter* above the Horizon, afford a commodious obſervation. There are four *Planets*, the invention of the *Great Galilæus*, which move about *Jupiter*, as about the Center of their Lord, ſo ſmall that they cannot be diſcerned by a free ſight, but only by the help of a *Teleſcope*. Their Motion (*viz.* that proper to them, by which they move about *Jupiter*, for they have a Diurnal Motion common with all the *Stars*, (a Motion common in the Ecliptick with *Jupiter*, and the other *Planets*) is very ſwift. For he that is next to *Jupiter*, abſolveth his courſe in one day with 18 ½ hours; the ſecond in 3 days, with 13 ¼ hours; the third in 7 days, and 2 hours; the fourth and laſt in 16 days with 18 hours. The progreſs of their Motion muſt be Calculated at every hour, and therefore it is not found in the common *Ephemerides*; but you have their *Ephemerides* in other Books. Therefore if we deſire by the help of their Motions to find the Longitude of a place, we muſt make uſe of a moſt perfect *Aſtroſcope*, and in the night turning it to *Jupiter* (if he be above the Horizon of that place) to obſerve the Conjunction of theſe two *Planets*, or the Conjunction with *Jupiter*, or the like appearance, and at that moment of time to find alſo the hour of the place from the Meridian ſcituation or *Altitude* of any *Star*. Then the *Ephemerides* of theſe Companions of *Jupiter* muſt be conſulted, and the hour, and ſcruples of hours thence taken, in which ſuch a Conjunction is in the Meridian, unto which thoſe *Ephemerides* are computed. And ſo again we ſhall have the hour of the two places at the time of one and the ſame *Phænomenon*. Whence from the difference of the hours, if it be turned into *degrees*, we ſhall find the Longitude of our place from the Meridian of the *Ephemerides* which is known.

The ſixth Mode by an Automatical, *or moving* Dial, *or* Horologe.

The ſixth Mode by a moving Dial.

By reaſon that all the Modes in which by the *Celeſtial Phænomena* we have ſhewed to find the Longitude of places are in this reſpect defective, that they do not appear every night (for it is known concerning the Moon, as alſo with the attendants of *Jupiter*, that they riſe and ſet with the *Sun* near to *Jupiter*) and moreover that they have a great difficulty of obſerving in the Ships, joyned or accompanied with the flowing of waves; for this reaſon many leaving the appearances of the Moon, and the attendance of *Jupiter*, fly to the *Automatical Horologe*, and adviſe the *Mechanical Artificers*, ſo to endeavour to prepare a *Machine*, or *Horologe* as may be ſubject to no error, ſo that it may ſhew 24 hours at the ſame time, in which the *Sun* may be circumvolved, and may make one day, or 24 hours, and may neither *Anticipate* or poſtdate the time.

A moving Dial very uſeful for the finding the Longitudes of places.

If that ſuch an *Automaton* could be made, it would be very apt and afford a moſt facile invention of Longitude to Navigators. For before that they ſet Sail from any place, the hour of that place muſt be obſerved accurately at ſome time (which is no difficult matter) and the *Automaton* was to be diſpoſed at that hour, and ſo in every day it will ſhew the hours of this place, if that it be ſubject to no fault. When therefore that place being left, it came to another whoſe Longitude or diſtance of the Meridian, from the Meridian of the place of the departure, we deſire to know, nothing remaineth to be done, but that we ſhould obſerve in this place the hour from Heaven (which in the day time is done by the *Sun*, in the night by the *Stars* without much labour) of this place, and alſo looking on the *Automaton* what hour then is in the place, or Meridian whence we departed. So we ſhall have the hours of two places at the ſame moment of time. And therefore that difference of hours, if that it be changed into *degrees* and Minutes, as hath been ſaid

ſaid already, it will ſhew the Longitude of this place, from the Meridian of our place whence we departed, and ſo the *degrees* in the Maps or Globes being numbred from this Meridian whence we departed, they will ſhew the Meridian where we are.

But notwithſtanding *Artiſts* have hitherto ſhewed great induſtry in the making of an *Automaton* of ſuch perfection, yet none hath been ſo happy to accompliſh the ſame. For both the condition of the matter whence they are made lacks ſuch a perfection, and the diverſity of the *Air* taketh away the perpetual equality of the *motion*. For when the *Air* is cold, it moves more ſlowly than when the *Air* is warm; ſo that the *Automaton* which the *Hollanders* placed in their Houſes, when they lived a whole Winter in *Nova Zembla*, ceaſed wholly from *motion*, although that they added more weight to it than was uſual. Now for the correcting this defect in theſe *Automatical Horologies*, or *Clocks*, they adviſe us every day to place the *Horologe* at the hour of that place in which, or unto which they then are come, but although this be done, yet a great error may creep into the invention of Longitude.

The Automatical *Horologe* ſubject to Error.

For if on the ſecond day of our going forth, the Longitude of this place, or Meridian may be found out from the hours of the *Automaton*, compared with the hours of the place unto which we are come, and the hours of the *Automaton* do not altogether exactly agree with the hours of the place whence we ſet Sail, thence it will come to paſs that a defective Longitude may be taken, and a falſe Meridian noted in the Maps for the place of the Ship that day. In the following day, *viz.* on the third day, a falſe Longitude ſhall again be found, and that being numbred from the falſe Meridian of the preceding day, ſhall duplicate the error. On the fourth day again it ſhall be augmented, and the defect ſhall be triplicated. On the fifth day it ſhall be four times worſe, and ſo on. For Example, if that an *Horologe* in the ſpace of 24 hours prove defective in the *Celeſtial motion* and *revolution* for the 15*th* part of an hour, (which perfection our *Artificers* do ſeldom exceed) the Longitude found from it ſhall be greater or leſſer than an whole *degree* (for ¼ of an hour, maketh a *degree*) and ſo a falſe Meridian of this day ſhall be noted in the Maps, which is diſtant from the true a *degree*, or 15 Miles. And on the third day, by reaſon that the *Automaton* erreth again the 15*th* part of an hour, here again will be the defect of one *degree* of Longitude, and ſeeing that the noted Meridian of the former day is alſo abſent one *degree* from the Meridian, which is true, and from thence the Numeration is made for the Meridian of the third day, here now will be a Meridian removed two *degrees*, that is thirty Miles in the *Æquator*: on the fourth day three *degrees*, on the fifth day four *degrees*, that is ſixty Miles, ſo that at length the numerated Longitude, and the noted Meridian will be far from the Meridian in which the Ship then is. And this is the Cauſe why this Mode is not perfect, and is therefore neglected by *Mariners*.

Lemma.

Becauſe that in all the preceeding Modes of finding out of a Longitude, the hour was to be ſought for at the time of obſervation, therefore we ſhall explain the ſame Mode from the Principles of *Aſtronomy*, by which it is done (for concerning the Elevation of the Pole, which alſo is required, we have ſpoken in the 23 *Chapter*). In the day time the *Sun* muſt be obſerved, in the night the moſt remarkable *Stars*. At both times it is beſt to expect the time in which the *Sun* or *Stars* are in the Meridian, and for the knowing the hours and *Horary* ſcruples of the other remaining part of time, a moſt exact *Automaton* muſt be uſed. For an *Automaton* will little err above the ſpace of half a day if it be exactly made, and ſo we ſhall have no need of the Elevation of the Pole in this caſe, which yet we ought to know by reaſon of the Parallel.

See Chap. 23

Concerning the day therefore, the *Sun* being brought into the Meridian, we know the 12 hour to be in the place, and therefore the *Automaton* muſt be pla-

ced at this very moment of time to shew the hours of the following time. But if the *Phœnomenon* must be observed before the *Meridies*, let the *Automaton* be disposed at the very time of the observation, and then let the appulse of the *Sun* at the Meridian be observed, and then looking on the *Automaton* the hours may be known, which are elapsed from the time of the observation to the *Meridies*, or 12*th* hour, whence the hour of the observation shall be known.

But if when the *Sun* is without the Meridian, you desire to know the hour from the Heaven, let the *Altitude* of the *Sun* be taken at the time of the *Phœnomenon*, or *appearance*. Then on the *Spherical Triangle*, from three given sides, which are the *Complement* of the Elevation of the Pole (or the distance of the place from the Pole) the *Complement* of the *Declination* of the *Sun* to that day, and the *Complement* of the observed *Altitude* of the *Sun*; from these three sides, I say, of the *Spherical Triangle*, let any *Angle* be found out: in this that must be found which is comprehended from the *Complements* of the *Declination* and Elevation of the Pole, or that which is opposed to the *Complement* of the *Altitude* of the *Sun*, which how it may be done, let those that are studious search from the Doctrine of *Trigonometry*. How the hour may be found by the Globe from the *Altitude* of the *Sun* at any time, we have shewed in the 29 *Chap.* and the 3*d. Prop.* which may satisfie most Students in *Geography*, when they do not so much as demand an exact part of an hour, but in *Navigation* it must be Calculated, except some, who resolve it by a *Catholick Planisphere*, but I fear over much defect in *Horary* scruples. In the night time the *Stars* must be applyed, as hath been said, and because, for the most part, one or other of them may be had in the Meridian; therefore there is no necessity to exhibit another without the Meridian, but it is best to Elect one in the Meridian, or to expect it at the time, in which some *Star* nigh to the Meridian cometh unto it. Then assume from the *Astronomical Tables*, the direct Ascension of that *Star*, and also the direct Ascension of the *Sun* of that Point of the Ecliptick, in which the *Sun* is on that day. And if the direct Ascension of the *Sun* shall be lesser, let it be substracted from the Ascension of the *Star*; if greater, let his *Complement* be taken at 360 *degrees*, and let this be added to the Ascension of the *Star*. Change the *degrees* thus taken into hours, and scruples of hours: these shall those demanded at the time of the observation.

See Chap. 29. Proposition 3.

Proposition VIII.

Other ways for the finding out of Longitude.

To shew other Modes of finding out of Longitude, *which exhibit not primarily and properly the Longitude, but the very place of the Point (whose Longitude or Meridian is only demanded): yet it is commodious to use for the Constituting or examining of the* Longitude *of* Terrestrial *places.*

The first Mode.

The distance and Latitude of two places being given, to find the Longitude of one place from the other; but in Maps which Mariners *use, and in Globes to find the Point of an unknown place, if that another place be given,* (for there is always one place known or given).

The first Mode.

If that by a *Trigonometrick Calculation*, you will find out the accurate *Longitude*, you must find the *Angle* on the *Spherical Triangle*, all whose sides are given, *viz.* the distance being turned into *degrees*, the *Complements* of *Latitude*; or distance of the places from the Pole; the computation must be made from the two sides of the comprehended *Angle*, which are the *Complements* of *Latitudes*, or which are the *Arches* intercepted between two places. The Method must be taken from *Spherical Trigonometry*.

But in Mariners Maps, *and the* Globe, *the unknown place of the Point is thus found from the given.*

In

In *Mariners Maps* the given distance is taken by the interval of the *Compass* from the opposite *scale*, and one *foot* being fixed on the given place, the other is turned round until it touch, or cut the Parallel of the other *Latitude*, which is that of the unknown place. The *Point* of the *Contact*, or *Section* is the place demanded or unknown. But other *Maps* are unfit for this purpose, neither do the *Mariners Charts* exhibit an accurate distance of places. Mariners Maps.

On the Globe, let the given distance be turned into *degrees* and Minutes, and let them be taken by the interval of the *Compass* on the *Æquator*. Then let the *degree* of *Latitude* of the unknown place be noted, let one Foot of the *Compass* be placed on the given place, and let the Globe be turned until one extremity of the Foot touch the Point of the Globe subject to the noted Meridian *sign*: that shall be the place demanded. Or let the Parallel of the unknown place be described with Chalk, and then one Foot of the *Compass* being fixed on the given place, let the other be turned round until it cut that Parallel, or touch it. This Point of the *Section* is the place sought for, whose *Longitude* is then reckoned in the *Æquator*.

The second Mode.

A Quarter being given, in which any place unknown (that is whose scituation is unknown) doth lye from the noted place, or place given, and the Latitude of both places being given, to find the Longitude of the unknown place from the place known, and to exhibit the place on the Globe, and Mariners Chart.

The second Mode.

By the given place, we understand here the *Angle* intercepted between the Meridian of either place, and the *Line* drawn from the one place to the other, which is more commodiously explained on the Globe, or by a *Diagram*. If therefore by *Calculation* you would find out the *Longitude* of one place from the other, the *Spherical Triangle* must be solved, in which there are two sides given, (*to wit*, the *Complements* of *Latitude* of both places) and the *Angle* adjacent to the given side of either. But the *Angle* comprehended from the two given sides is that demanded. For this will exhibit the sought for *Longitude*.

But in a Globe *and* Mariners Charts *it is not needful to find out* Longitude, *neither can it at the first be found out, but the place unknown is found from the given places.*

Not needful to find out Longitude in a Globe, and in Mariners Charts.

In the Globe: Let the place be brought to the Meridian, let the Pole be Elevated for its *Latitude*, and let the *Vertical Quadrant* be applyed to it: let the Parallel be drawn with Chalk at the *Latitude* of the other place unknown. Then let the extremity of the *Quadrant* be applyed to the given *Plaga* of the *Horizon*, *viz.* in which the other unknown place lyeth from the known. The Point of the Parallel where the *Quadrant* cutteth or toucheth it, is the place sought for, whose *Longitude* shall be reckoned in the *Æquator*.

In Mariners Charts: Let the Parallel be drawn to the *Latitude* of the unknown place, then from the given place let a *Line* be drawn for the given *quarter*, the Point where this cutteth the Parallel is the place sought. But if the *Loxodromick Plaga* be given, we should do otherwise, of which in the 39 *Chapter*.

The

The third Mode.

A Quarter being given, and the distance of one unknown place from the other, whose Latitude is given, to find out the Longitude of that place from this: but on the Globe and Maps if this place be given, to exhibit the scituation of that.

The third Mode.

If you desire to find it by *Calculation*, two *Angles* are given in the *Spherical Triangle* (the *Complement* of the *Latitude* of the place known, and the distance of the unknown place being turned into *degrees*) and the *Angle* comprehended from the *Plaga* given: from these three given, the opposite *Angle* to the distance must be sought for. For this will exhibit the *Longitude* of the other place from the known place.

But on the Globe, and *Mariners Charts*, the place is thus found: let the Pole be Elevated for the *Latitude* of the place given: let the *Quadrant* be applyed to the *Vertex*, and let the other extremity be applyed to the given *Plaga* of the *Horizon*. Then the distance given being turned into *degrees*, let it be reckoned on the *Quadrant* from the *Vertex*. The term of the *Numeration* shall be the place sought for on the Globe. But if that the *Longitude* be only sought for without the designation of the place, that is, if you are minded to resolve a *Spherical Triangle* by the Globe, it will be done after this Mode.

See Chap. 33. We will give Examples in the 33 *Chapter*, which is also to be observed in the following *Chapters*. There also we will shew by one Example how such *Problems* may be resolved by the *Planisphere*. Concerning all these, also Tutors may instruct their Scholars from the Method of the *Logarithms*, if that they be studious in these matters. But *Mariners* use *Calculation*, or the *Plaine Sphere*. For the use of a Globe is not so commodious in a Ship.

A Globe not commodious in a Ship.

In *Mariners Charts*, Let a Line be drawn from the given place for the given *quarter*, and by the interval of the *Compasses*, let it be taken on the Scale, the distance of the places being opposited, and one Foot being fixed on the place given, let the other Foot be placed in the Line drawn for the *Plaga* or *quarter*. This Point shall be the place sought for, but yet not exact, as we shall shew in the following *Chapter*.

The fourth Mode.

The distance of a place unknown, being given from two places known, to exhibit that and the known one in the Globe, and Maps; but to enquire its Longitude by Calculation.

The fourth Mode.

In *the Globe*: Let one distance by the interval of the *Compasses* (turned into *degrees*) be taken on the *Æquator*, and one Foot being fixed in the place from those given, whose distance was not taken; let an Arch be drawn on the Superficies of the Globe, by the other Foot, which hath the Chalk at its end.

After the same Mode, a distance being taken from any other place, let an Arch be described from this, as from a Center on the Superficies: the Point in which this Arch cutteth the former, is the place demanded.

In *Mariners Charts*, we must act after the same manner, but yet the distances given must not be changed into *degrees*, but must be taken on the opposite Scale. But if the place be somewhat more remote from the place given, an over great error may be committed, by reason that the *Charts* do not perform this accurately.

The invention of *Longitude* by *Calculation*, because it hath much difficulty, as the *Diagram* requireth; therefore I shall leave it to be taught by some Tutor, and not describe it in words.

The

The fifth Mode.

Two places in the Earth being given, and the Quarters in which some other unknown place is scituated at them, to find out this third place in the Earth, Maps, and Globe, and to enquire the Longitude of this place by Calculation.

In the Globe, Let one of the given places be brought to the Meridian, and let the Pole be Elevated near its Latitude let the *Quadrant* be applyed to the *Vertex*, and with the other end (in which *to wit*, at this noted place the third unknown place is put to lye) and at the *Margent* of the *Quadrant* by a pointed Chalk, let a small *Periphery* be drawn. Then let the other given place be brought to the Meridian, and the Pole Elevated near to its *Latitude*, let the *Quadrant* be affixed to the *Vertex*, and the other extremity to the given *Plaga* of the *Horizon*, *to wit*, in which the third unknown place is placed to lie at this, same known place the Point, in which the *Margent* of the *Quadrant* cutteth the *Periphery* before drawn with Chalk, is the third place demanded. The fifth Mode.

On Maps it is thus done; Let a Line be drawn from one given place for the given *quarter* of the three places; after the same Mode let the Line of the *quarter* be drawn from the other given place. The Point in which these two Lines mutually cut one another is the place demanded.

After the same Mode we should do on the Earth, if that we would Act scientifically: neither in Sciences do we value hinderances, and impediments, so that we may comprehend the Mode in our *mind*.

The *Calculation* in which our unknown Longitude of a place is found, from these given, we leave to the Instruction of a Tutor if that he hath apt and capable *Scholars*.

But more than enough hath been said concerning the invention of Longitude, the ample use of which we have explained in the 2*d Proposition*.

Here should be added a Table *of the* Longitude *and* Latitude *of the chief places of the* Earth, *which the* Author *hath Collected, and did here insert; but being but short, and having* Maps *of the several* Kingdoms *of the* World *in the other Part, or Volumn, to which the* Latitudes *and* Longitudes *are added, they are thought convenient to be omitted here, and referring the* Reader *to the particular* Maps, *by which you may easily find the* Latitude *and* Longitude *of any* place *desired*.

Moreover seeing that there is great use of Declination and Ascension of the fixed *Stars*, both in *Geography* and *Navigation*, I shall here add a Catalogue of the *Stars* of the first *Magnitude*, with their *Declination* and *direct Ascension* at the Year 1650. For it is known from *Astronomy*, that in progress of time, a change is made in these by reason of the proper *motion* of the *Stars* above the Poles of the *Ecliptick*. But in the use it is convenient to have such a *Table* of all the *Stars*, because we have not alwaies a conveniency of using the same *Stars*. But we only lay down these for Exercise, and for the trying the proposed *Problems* in these. This business belongeth to *Astronomy*, but the use is notable both in other Sciences, and also in *Geography*.

The fixed *Stars* as to their Declination and Ascension, of great use in *Geography*, and *Navigation*.

Astronomy sheweth how a Declination, and direct Ascension may be found at every Year.

A TABLE of the DECLINATION

And right *Ascension* of the *Stars* for the Year 1650.

The Letter S, *sheweth the* Northern Declination, *and the Letter* A, *the* Southern.

The Names of the *Stars*.	Declination.			Right Ascension.	
Of the first Maginitude.	deg.	min.		deg.	min.
Oculus Tauri.	15	46	S	64	0
Regulus, or *Cor Leonis.*	13	39	S	147	27
Cauda Leonis.	16	32	S	172	59
Spica Virginis.	9	17	A	196	44
Cor Scorpii.	25	34	A	242	4
Lucida Aquarii.	31	24	A	339	28
Arcturus Bootis.	21	4	S	209	59
Lucida Lyræ.	38	30	S	206	17
Cauda Cygni.	44	3	S	307	23
Capella.	45	35	S	72	44
Pes Orionis Sinister.	8	38	A	74	29
Sirius, Canis Major.	16	13	A	97	26
Humerus Dexter Orionis.	7	18	A	84	7
Canis Minor.	6	6	S	110	17

CHAP.

CHAP. XXXII.

Of the mutual scituation of places, and composition of the Terrestrial Globe *and* Maps.

Proposition I.

A place being given in the Earth, to find the scituation of other places at that place.

NOw the scituation of one place to the other is termed that *Plaga* in which this lyeth at, or an *Angle* of *position*, that is an *Angle*, which the Meridian of the given place maketh with a Line, or *Periphery* drawn from this place to the other. For *Example*, if we be in *Amsterdam*, and desire to know in what scituation other places lie unto it, as *Rome*, *Leyden*, the *Hague*, or the like. Of finding of the scituation of places in the Earth, &c.

The first Mode.

To those places that a prospect is granted from the place given, their scituation may exactly be observed to this place by *Instruments*. Let a *Geometrical Instrument* be placed in an high *Tower*, or the place of the given place, so that it may be Parallel to the *Horizon*, and the Meridian Line being found, let one *Rule* of the *Instrument* be applyed unto it; and the other having a *Perspective* must be directed to the conspicuous place. The *Arch* of the *Periphery* intercepted between the two *Rules* is the *Angle* of the position of the place observed at this place; and from thence his *quarter* shall be known. The first Mode.

So the scituation or *position* of all other visine places shall be observed, then let us go to these places, and from them by the same *Mode* we shall again discover the scituation of other places: and then we may so act over the whole Superficies of the Earth, except that other ways were known, by which we might come more easily to the demanded place.

The second Mode.

If that the proposed places may be had on the Globe, let the place given be brought to the Meridian, and let the Pole be Elevated for its *Latitude*; let the *Quadrant* be affixed to the *Vertex*, and let it be applyed to one, and the other places, whose scituation we desire to know at our place. The extremity of the *Quadrant* in the *Horizon*, will shew the *Angle* of *position*, and the *quarter* sought for. And therefore we shall say, that *Rome*, *Constantinople*, lie from *Amsterdam* towards this or that found out *quarter*. Which that we may conceive in the *World*, we ought to know the Meridian Line, or *quarter* of the *North* and *South*, also the *East* and *West Æquinoctial*, for from these being well conceived of, the intermedial *quarters* may easily be conceived. Here must be collected what hath been said concerning *quarters* in the 20 *Chapter*. The second Mode. See Chap. 20.

The third Mode.

From Maps of *Streight lines*, if that the places propounded be to be found in them, it is easy to discover the scituation of those places to this by the eyes. For through the given place a right Meridian Line is conceived shewing the *North*, and *South*, and another Line transverse, or shewing the Parallel of the place, which discovereth the *Eastern* and *Western quarter*. From these the intermedial *quarters* in which every place is beheld, are easily discovered, or else they are more accurately known by Lines drawn on the *Quadrant* of the *Periphery*, if that there be need of a more accurate knowledge. But yet this Method is not compleat except in particular Maps. The third Mode.

In Maps of *Crooked lines*, the *quarters* or scituations of places are not so accurately sought as the other place.

The fourth Mode.

The fourth Mode.

The *Latitude* and *Longitude* of two places beging given, the ſcituation of one to the other is exactly found by a *Trigonometrical Compute*, both that which is *Vulgar*, as that which is *Logorithmetical*, or by a *Catholick Planiſphere*, or alſo by the Globe. For let a *Spherical Triangle* be had, in which three things are given, *viz.* the *Complements* of the *Latitudes* of both places, and the *Angle* comprehended from theſe, which is known from the difference of *Longitude*. Now let the oppoſite *Angle*, or adjacent to either of the two ſides be ſought, for this will ſhew the *Angle* of *poſition* of one place to the other, and the very *quarter*. A *Diagram*, and the lively inſtructions of a Tutor, will make theſe more clear; and hence appeareth the uſe of the *Table* of *Longitude* and *Latitude* of places.

The fifth Mode.

The fifth Mode.

From the given diſtance of a place from two places, or from the given diſtance and *Latitude*, his *quarter* or *ſcituation* to the other place is found out by the ſolution of the *Spherical Triangles*.

The ſixth Mode.

The ſixth Mode.

The *Latitude* of two places being given, the diſtance of the *quarter* of one is found to the other by a threefold Method, as hath been ſaid. Other things given may be propounded by which we may find out the *quarter*.

Propoſition. II.

A place being given on the Earth or Globe, to exhibit all places which lie at the given place, in ſome one given quarter, or ſcituation.

Of the knowing the places in the North-Eaſt quarter from *Amſterdam*.

For *Example*, we deſire to know all the places which lie in the *North-Eaſt quarter* from *Amſterdam*.

Let the Poſe be Elevated for the *Latitude* of the given place, and let the place be brought to the Meridian; let the *Quadrant* be affixed to the *Vertex*, and let the other extremity be applyed to the given *quarter* of the Horizon. So we ſhall behold the half part of the places ſought for, *viz.* thoſe, which are adjacent in the Globe to the *Margin* of the *Quadrant*, the other half part is beneath the Horizon at the *point* oppoſite to the *Vertex*.

But the conſtruction is more eaſy for the Earth it ſelf: *to wit*, Let the *Periphery* of the great Circle be brought to the place given, which with the Meridian of that place may make the given *Angle* of the *Poſition*. All the places in the half *Periphery* are thoſe ſought for.

Propoſition III.

A place being given in the Earth, or on the Globe, to exhibit all thoſe places, at which the given place, hath ſome one given ſcituation or quarter.

Of the knowing the places which lie North-Weſt to *Amſterdam*.

For *Example*, we deſire to know all the places, unto every one of which *Amſterdam* lyeth in the *North-Weſt quarter*.

But the *Problem* may with more delight be thus propounded; Any place, in the Earth, or on the Globe, being given, as in *Amſterdam*, to ſhew all thoſe places

places, from which whilſt we deſire to go to the given place *Amſterdam*, we muſt direct our Courſe from every one of the places to one and the ſame given *quarter*.

The preceeding *Problem* was locally plain, becauſe the place of the demanded *points*, was the *Periphery* of the *Circle*, which may be exhibited on a *plain*; and is always ſcituated in one *plain*. But the preſent *Problem* is ſolid, or rather doth belong to the Superficies. For the place of the demanded *points* in the Superficies of the Globe is not any *Periphery* of the *Circle* (except when the *quarter* given is *Northernly* or *Southernly*) but a certain peculiar crooked *ſolid line*, that is, which may not be on a *plain*, but a Crooked, *to wit*, a *Spherical* Superficies: yet neither is it a *Loxodromical line* (of which we ſhall ſpeak in a peculiar *Chapter*) but a Crooked *line* of its own kind terminated on both ſides. Now for the conceiving of this *line*, or the places themſelves on the Superficies of the Globe, let the given place be brought to the Meridian. Then if the *quarter* given be *Oriental*, it is certain that the demanded places are ſeated in the part of the Globe towards the Weſt removed from the Meridian of the given place (but it is otherwiſe if that the *quarter* given be *Occidental*) and if the *quarter* given be one of thoſe, which incline from the Eaſt, or Weſt, towards the North, the places demanded ſhall lie between the South, and the *primary Vertical* of the given place. But it is otherwiſe if the *quarter* given be one of thoſe, which incline from the Eaſt, or Weſt towards the South: if the given *quarter* be of the *Eaſtern* or *Weſtern Æquinoctial*, the place of the demanded places ſhall be ſome one Crooked *line*, beginning from the given place, and terminated in the *vicine Pole*, ſeated from the *Oriental* part of the Meridian, if the given *quarter* be of the Weſt, but from the *Occidental*, if that the given *quarter* be of the Eaſt, and muſt be conceived at this *line*: ſo the places muſt be ſought or exhibited from which *Amſterdam* lyeth towards the *Weſtern Æquinoctials*. Becauſe the *quarter* or *Vertical Quadrant* reſpecting the *Eaſtern*, or *Weſtern Æquinoctial*, falleth in with the *point* of the *Æquator*, which is 90 *deg.* abſent from the Meridian of every place. Therefore firſt let the *point* drawn from the given place, be conceived to be ſeated at the *Æquinoctial quarter*, or *point* of the *Æquator* in the *Horizon*, and therefore it is certain that all the places ſought, ought ſo to be ſeated from the *Oriental* part of the Meridian of *Amſterdam*, ſo that their *quarter*, or *primary Vertical Quadrant*, reſpecting the Weſt, muſt cut the *Quadrant* of the *Æquator* between the *points* in the *Occident*, and the Meridian. Therefore from every one of the *points* of this *Quadrant*, let the greateſt *Peripheries* be conceived paſſing through *Amſterdam*, and the Meridians drawn from theſe *points* as from the Poles, in which the firſt conceived *Peripheries* every one cut their Meridians, are thoſe demanded: they make ſuch a Crooked *line* as I have ſaid, which putteth it ſelf into the Pole, neither is it infinite. Hence the difference is manifeſt between the Crooked *line* and the *Loxodromick*. For this doth not ariſe in journeys inſtituted towards the *Eaſtern* or *Weſtern Æquinoctial*. All the kinds of this of which we now do ſpeak, are ſuch that are contained and run within the Pole, and the *Quadrants* of the 2 Merid. whoſe diſtance doth not exceed 90 *deg.*

But where any *quarter* is given intermedial between the *Cardines*, for *Example*, places are ſought from which *Amſterdam* lyeth towards the *South-Weſt*, or in the *quarter* removed 45 *deg.* from the Meridian of every place towards the Weſt from the South. Firſt therefore let another Meridian from the *Oriental* part of *Amſterdam* be imagined (for in this it is manifeſt, that the places ſought ought to be) which with *Amſterdam* maketh an *Angle* of 45 *deg.* or between which and that of *Amſterdam*, the intercepted *Arch* of the *Æquator* is 45 *deg.* This ſhall be the term of the places ſought for, neither beyond it can any place be found in any Meridian which doth ſatisfie. Let a perpendicular *Periphery* be ſuppoſed to be drawn from *Amſterdam* into this Meridian. Moreover becauſe the *quarter* given ſeemeth to incline towards the South from the Weſt, thence it is certain, that the places demanded ſhould be ſcituated in the ſpace of the *Triangle* whoſe ſides are now firſt drawn *Perpendicular*. Secondly, part of this Meridian is

intercepted between the drawn *Periphery* and the vicine Pole. Thirdly, part of the Meridian of *Amsterdam*, is between *Amsterdam*, and the adjacent Pole.

In this space the *Crooked line*, all whose Points answer the demand, is seated, which creepeth forwards from *Amsterdam* with a crooked passage even to the Pole: For the Description of it many Meridians are to be taken, from which the great *Periphery* drawn to *Amsterdam*, may make with the Meridian from whence it is drawn, an *Angle* of forty five *degrees* for our Example. So many *Points* of this *Crooked line* to be described shall be found.

We have treated fully of this *Crooked line* in our Book of *Crooked lines*, here we have only touched what is proper to *Geography*.

Proposition IV.

The Latitude of one place being given, and the distance from the other place, and the quarter in which this other place is seated from it, to find the quarter of this other place in which the former place is seated at this other place.

It will be better understood by an Example. *Viz.* Let the *quarter* be given in which the City of *Hamburgh* is seated from *Amsterdam*: we seek the *quarter* in which *Amsterdam* is seated from *Hamburgh*. The vulgar opinion is that the contrary quarter is to be taken, which is false. And in this all *Mariners Charts*, and all Right *lined Maps* do much err. The solution is easy by a *Trigonometrical Calculation*, or by the Globe, or by the *Plain Sphere*.

Proposition V.

To make a Terrestrial Globe.

Of the making a *Terrestrial* Globe.

So the vulgar speak very confusedly by this *Problem*: but the distinct understanding of it is thus to be propounded in a *Mathematical* Style.

Any *Point* being given in the Superficies of any Globe, which is put to represent any place scituated in the Superficies of the Earth (or in the given half *Periphery* to find out any *lines* and *Points* in the Superficies of the same *Globe*, which are so mutually seated to the given Point and to themselves, as the places and Lines in the Superficies of the Earth, which ought to be represented by them, are scituated to the place first taken, and mutual to themselves.

The first Mode.

The first Mode of making *Terrestrial* Globes.

The best, most easie and exactest method is that by which from the *Longitude* and *Latitude* of places in the Superficies of the Globe it self, the places and Points sought for, or representing the parts of the Superficies of the Earth are consigned, which although *Artificers* do not use in making of *Terrestrial Globes* which are sold in a great number, (because that this may be done another way, where from the abundance of their Sale, the cost and charge is sufficiently paved, which is not of facility and lesser expence for the making of one *Globe*, but most apt and prompt for the making of innumerable of the same *Magnitude*, and less expence, of which I shall speak in the third place; yet the foundation of the construction of it dependeth on this Description conceived on the *Globe*: moreover where peculiar *Terrestrial Globes* are to be made in *Brass* of a notable *Magnitude*, and the places of the Earth are to be designed on its Superficies, as *Princes* that favour the *Mathematicks* are wont to have them, as for example, *Frederick Duke of Holstein* hath ordered such a *Globe* to be made, whose Cavity is to be so great, that one may commodiously set in it, and in the Superficies all the *fixed Stars* are to be painted in a golden

A great Globe a preparing for *Fredrick* Duke of *Holstin*.

golden colour, or little *Stars* made, are let in with a small instrument, and the *Sun* moveable, and to be turned in the *Zodiack*, and with the addition of a small Instrument shall be wheeled round in 24 hours, so that the Spectator setting within its Cavity may see the *Stars* in one and another scituation, to arise, Ascend to the *Meridies*, to set, even as we see the *Stars* to do in the Heaven. But the external Superficies to come to our purpose, shall exhibit all the places of the Earth, so that this Globe shall be both *Celestial* and *Terrestrial*. But when I say such places are to be *engraven*, or *painted* on the Superficies of great Globes, *Artists* cannot use their Mode by applying of *Maps* made of *Paper*, neither would that be so convenient in so great and famous a Work. But now they must be engraven in the Globe, and the places be illustrated with *colours*, as also the *Peripheries*, the *Rivers*, and such like as are found in the Earth. Now this is done thus, (using also at the same time a vulgar Globe, in which the Courses of the *Rivers*, *Seas*, and the Earth are beheld.) Let a great *Periphery* of the Globe be described through the given *point*, (or the assumed *point* at your choice, if that be not given) in the Superficies, which *Periphery* we shall constitute for the Meridian of this place; then let an *Arch* be taken in this from that *point*, equal to the *Latitude* which that *point* is put to represent: and let the term be noted, and let another *Arch* equal to the *Complement* of the *Latitude*, or distance of the place from the Pole, be taken from the same *point*, or from another *point* in the same *Periphery*, the *term* of this *Arch* shall be the *point* which must represent the *Arctick* and *Antarctick* Pole of the Earth, because it is so seated at the given *point*, as the Pole of the Earth which is put to be represented from the *point*. Therefore we call this *point* the Pole of the Globe, but the term of the *Arch* first noted sheweth the *point* in which the *Æquator* cutteth the Meridian of the given place.

And therefore from the Pole of the Globe, let a great *Periphery* be drawn by the interval of the *Compasses* from that Pole to the Mentioned *term*, which shall be the Line of the *Æquator*, or the *Æquator* of the Globe.

Then let a Pole be taken in the Meridian opposite to the former, and let an *Iron Axis* be put through from one to the other through the Cavity and *Center* of the Globe, and let a *Brazen* Meridian be affixed in its extant parts, prepared by a diligent *Artist*, having every one of its *quarters* divided into *degrees*. Now these *points* must be applyed to the *Axis* where o, o, is, or where the *division* of the *quarters* do end, so that the beginnings of the first *degrees* may exactly hang over the Line of the *Æquator*. Let the *Æquator* be accurately divided into *degrees*. Moreover if you will take the Meridian of the given place, or of some other place for the first, it is all one, but it is better to take that for the first, which the *Tables* of *Longitude* and *Latitude* which are to be used in the designation of places, do acknowledge for the first, or from whence they number the *Longitude* and *Latitude* of the other places. And therefore if the place first given, is not that which the *Tables* acknowledge, let the *Longitude* of the first given place be taken from the *Table*, and let so many *degrees* be numbred from that *point* in the *Æquator*, where the Meridian of the first place cutteth it. The *term* of the *Numeration* shall be the *point* for the first Meridian of the *Tables*. Now unto what *quarter* the *Numeration* must be made is known, *viz.* towards the West: but what part of the Globe is to be taken for the *Occidental quarter*, and what for the *Oriental quarter* from the Meridian of the first place, you shall thus know. So place the Globe that the *Semicircle* of the Meridian containg the first *point* may be uppermost, the other beneath, and regard the Globe, now the *Pole Arctick* should be neareſt, the *Antarctick* more remote; if that the place given near the *Arctick Pole*, but if near the *Antarctick*, then the *Antarctick* must be placed nearer us, so that *Hemisphere* which is in our right hand must be taken for the *Occidental* places, and the other for the *Oriental*.

But

But in the *Section* of the first Meridian noted in the *Æquator*, let those numbers be ascribed to the *degrees* of the *Æquator* beginning from that *Section*, *viz.* 10, 20, 30, and so on. And then so must it be done in representing for any other place, let the *Longitude* be taken from the *Table* of that place, and reckoned in the *Æquator* from the first Meridian. Let the *term* of the *Numeration* be placed under the Meridian, and let the *degrees* of the *Latitude* of that place which there we have extracted from the *Table*, be numbred in this from the *Æquator*. The *point* of the Globe which is then subject to the *point* of the Meridian where the *Numeration* of the *Latitude* endeth, will represent that place of the Earth. And so we must do with all places, all *Inlets*, and *Fountains* of *Waters*. Their *appellations* must be engraven. So the *Problem* is satisfyed, for all the places shall so be seated in the Globe, as in the Earth it self.

Yet in the practice we must not so act at the first, because it is better to assume Pole, for the first *point*, or that which may represent the Pole: and in the making of the Globe, let the *Axis* be added, whose ends denote the Poles. And the first Meridian of the *Tables* must immediately be noted on the Globe, and then the other places, as I have said. But such great Globes are seldom made from *Tables*, but for the most part imitate other lesser Globes, from whence the *Latitudes* and *Longitudes*, and the tracts of *Rivers*, &c. are taken.

The second Mode.

The second Mode of the making of Globes.

This Mode is more apt to design some place, *viz.* one or two in the Globe from others given, than to be used for the making of an intire Globe; for it useth the *distances* of places. Let the greatest *Periphery*, or the *Arch* of the greatest *Periphery* be drawn through the Globe, and in this from the given *point*, let the *Arch* be taken, as much as the distance of the other place is from the place first given, the *term* of the *Arch* shall be other place. Then if you will design any third place, take by the interval of the *Compass* the distance of that third place, from the other two even now designed, and from these as from *Centers*, let the *Arches* be described by these intervals of the *Compass*: The *point*, in which these *Arches* mutually cut one another, is the *point* of the third place.

But as I have said that this *Mode* is not commodious for the intire designation of the Globe; but when we will design any place in the Globe now made, which is not yet in it, and desire to do it from the only noted distance of that place from the two others which are found in the Globe, because it is easy, and we have not time by reason of *Calculation*, to search the *Longitude* and *Latitude* of this third unknown place. For thus we shall easily find the situation of this *point*, or place in the Globe, and also the *Longitude* and *Latitude*; then the *Problem* is this.

The distance of a place being given from two places that are found on the Globe, to design the situation of that place on the Globe, whose distance is given, of which in the following *Chapter*.

The third Mode, the Vulgar one of Artificers.

The third Mode of making of Globes.

The third *Mode* of exhibiting and representing the Superficies and places of the Earth in the given Globe, is that which *Artificers* use in the making of all Globes both *Celestial* and *Terrestrial* (except those great ones of which I have now spoken) which have nothing of compendiousness, or commendation from the facility, if that the places of the Earth be but only to be represented from one Superficies of the Globe, but it is to be done on the Superficies of the Globes of the same *Magnitude*; this practice hath great Prerogative before the other: for the *Mode* is thus; the Superficies of the Globe and the Earth is conceived to be divided into twelve parts (or more if the Globe be to be made of a larger form) through the Meridians drawn from Pole to Pole, so that in any two Meridians, the 12*th* part of a Superficies is included from Pole to Pole.

Then

Then on a Plain let the like Figure be included in such a part of the 12, in two *Arches*, which then in the Globe make the half *Periphery* of the Meridians. And in many Meridians drawn through every *degree* of the *Æquator*, and divided into *portions*, and *segments* of the *Parallels* affordeth a kind of *lettice work*: the *portion* of the *Æquator* is in the midst: all the Meridians end in the Poles, then one Meridian being taken for the first, which the *Tables* of *Longitude* acknowledge; let the *degrees* be noted from it in the *Æquator*, the numbers being ascribed, so that the *degrees* of *Longitude* of every place may be accounted. Then in every one of these places representing the 12 parts of the Superficies of the Globe, let the places be noted for the places of the Earth, every one at his *degrees* of *Longitude* and *Latitude*, which are extracted from the *Table*, and the name is ascribed to the *Table*, and the tracts of the *Rivers* and *Bays* drawn, as also of the *Lands*: these being thus described on *Paper*, or *Wood*, then make an incision, and engrave according to that exemplar in Plates of *Brass*, which then is fit for the Printing Press. Which are afterwards applyed and joyned to the Superficies of the Globe, so that its ends may touch the *Axis* or Poles of the Globe; yet in many the *Papers* do not touch the Poles, but are so made only to touch the *Artick*, or *Antarctick Circles*: and peculiar *Papers* are taken for the *Polary Spaces*. For so they are more easily applyed, especially in great ones so in the Superficies of this Globe all the places of the Earth are exhibited, to which is then added a *Brass* Meridian and Horizon with a Foot, *Horary Circle*, and an *Index*.

The things worthy of note in this Mode.

There are two things in this description which require a more full explication, all the rest I suppose to be plain, and intelligible.

First, after what *Mode* these 12, or 24 parts are to be described, according to the *Example* of which the *engraving* in *Brass* must be made.

Secondly, how plain *Paper* can be applyed to the Superficies of the Globe.

The first is thus done commodiously enough. For *Example*, let the 12 *portion* of the *Hemisphere* from the Pole to the *Æquator*, be applyed to the Globe. First, from the known *Diameter* of the Globe, let the quantity of the greatest *Periphery* be found out according to the *proportion* of *Archimedes*, or the other *proportion* of the *Periphery* to the *Diameter*. For *Example*, let the *Diameter* of the Globe be two Foot, and let the *Longitude* of the Foot in the noted *Paper* be divided into 10 *digits*, and the 10 *digits*, into 10 *grains*, that there may be 100 parts in a Foot. Let it be done so that as 7, is to 22, so 200 is 10 628 $\frac{4}{7}$ parts, or 6 $\frac{28}{360}$ Foot for the *Periphery*; the fourth part of this, that is the *Quadrant* of the *Periphery* shall be of 157 $\frac{1}{7}$ hundred, or 1 $\frac{57}{100}\frac{1}{7}$ Feet, and the 12*th* part of 52 $\frac{4}{7}$ hundreds, or $\frac{1}{2}$ a Foot, and 2 hundreds and $\frac{4}{7}$ of an hundred. These being found, let a long Line of 52 $\frac{4}{7}$ hundreds be drawn on the *Paper*, (from the ascribed Scale); from the middle of this Line let a long perpendicular of 157 $\frac{1}{7}$ hundreds be erected, which shall be the *Quadrant* (its extremity shall be the Pole) and may be divided into *degrees* (you have the *Longitude* of one *degree* if you divide 628 $\frac{4}{7}$ by 360). Then let a *Periphery* be described from the Pole through the beginning of every *degree*, or of every tenth, (they shall be *Parallels*) in these *Peripheries*; from both parts of the drawn perpendicular, let that part be cut off by the *Compass*, as much as is the $\frac{1}{12}$ of the *Periphery*. Now how great it is in the opposite Scale is known from the *proportion* of the *Parallels*, to the *Æquator*, which we have delivered in the end of the IV. *Chapter*. So the *points* being *signed* in every *Periphery* and *Arch* you please, a Line must be drawn through them, and part of the *Paper* perminated by these Lines, must be cut off. For this being applyed to the Globe will possess $\frac{1}{12}$ of the *Hemisphere*. Now the application is easily performed, *viz.* if that the *portions* be small, for in these the distance between streight and Crooked, is little discovered, especially of the Earth when the *Paper* hath first been wetted; so it is readily applyed. But the places in that *Paper* before they are applyed, are consigned to their fit *degrees* of *Longitude*, and *Latitude*.

See Chap. 4.

Pro-

Proposition VI.

To compose Geographical Maps.

Of the composing Geographical Maps.

We may thus propound the *Problem* in a *Mathematical Style*.

The ſcituation of an infinite Plain, *or one to be produced at pleaſure being given, to repreſent in that the places of the* Superficies *of the* Earth, *according to the Rules of* Perſpective. Or thus more generally:

A Point *being given on any* Plain, *which is put to repreſent any place of the* Superficies *of the* Earth, *to find on the ſame* Plain (*infinite*), *divers other* Points *and* Lines, *which as commodiouſly may be, may repreſent to the life the* places *and* Lines *of the* Superficies *of the* Earth, *or their* ſcituation *to the given* place, *or one to another*. So I think the ſence of the *Propoſition* will be better underſtood.

By reaſon that very few Students and favourers of *Geography* underſtand the Rules of *Perſpective*, neither can they attain to any diſtinct knowledge of the Conſtruction and nature of *Geographical* Maps, or judge of their commodity or defects, except they know the *Principles*, according unto which they are made. Therefore here a few things neceſſary in this *Doctrine* muſt be explained from the *Art* of *Perſpective*. Now that *Art*, as moſt know, is converſant in repreſenting all Objects, or Bodies on ſome *Table*, or *Plat-form*, as the parts of a Picture are ſo conformed, and ſeated one to the other, and ſo appear to our ſight (the eye being fixed to ſome certain place) as the parts of the body which it repreſenteth. This indeed is the end of the *Perſpective*. But the *Mode* by which they endeavour to obtain it, is this.

The knowledge of Perſpective neceſſary in *Geography*.

The Mode for the obtaining the Art of Perſpective.

Then they will repreſent a *point*, a Superficies, or any Body of what ſhape ſoever in a *Table*, Board, or Paper, (whether they behold it, or conceive the *Idea* in their fancy). 1. They Imagine it is diſcerned by the eye as in or from one Point, and they do aſſign a certain ſcituation or place to the eye whence the ſight may be made. 2. Then they conceive ſome one infinit *plain* (they term it a *Glaſs*, becauſe it is better for conception, if that the *plain* be underſtood to be pellucid) to be interpoſed in ſome certain ſcituation between the eye and the Object. Then 3. They conceive rayes or Lines to be drawn through that *plain* to the Eye from every *point* of the Object. They ſay that the *points* of this *plain* by which the rayes are ſo conceived to penetrate to the Eye, are the repreſentation of the *points* of the Object it ſelf, or the Shadow of it, as they term it, and theſe *points* being conjoyned by Lines, they determine the Figure which thence ariſeth, in the *Table* to be the repreſentation of the very Object of the Body, or Superficies in ſuch a ſcituation of the Eye, and this Figure of a Plain or *Table* remaining in its ſcituation, doth not otherwiſe appear to the Eye remaining in its ſcituation, then as if it beheld the very Object it ſelf (which yet the *Opticks* ſhew not to be altogether true in all reſpects, and it is eaſy to underſtand from the various *poſition* of an interpoſed Plain.) But by reaſon no better Method of repreſenting Bodies is yet found, therefore we muſt be content with this. For *Example*, let the Superficies of the Earth, and all its *Peripheries* and places be repreſented on a *Table*. And therefore in the firſt we conceive the Eye to be fixed or ſcituated as a *point* without the Earth in the *Air*. Then between the Eye and the Earth, a certain *Table* or *Glaſs* Plain to be extended, whoſe ſcituation although it may be taken at pleaſure, yet in practice it is ſo aſſumed, to a better and more ordinate Figure of an equal form, that it is perpendicular to the Line, which is drawn from the Eye to the *Center* of the Earth. Then we conceive Lines to be drawn, or Rayes to be emitted through the *Table* or *Glaſs* to the Eye from all *points* or places of the Superficies of the Earth (as from all the *points* of the *Æquator*, of the *Tropicks*, *Polary Circles*, alſo of the Meridians; as likewiſe from all Cities, Sources of Waters, and the like.) Every one of theſe Rayes ſhall pierce the *Table* in certain *points*. Theſe *points* therefore are the ſhadows, or repreſentations of the places of the Superficies of the Earth, and if thoſe *points* which are

are made by the Rays emitted from ſome one *Peripbery* (as from the *Æquator*, from one of the *Tropicks*, from a *Polary Circle*, or ſome other Meridian) be joyned by a drawn *line*, let it be either *ſtreight* or Crooked, this ſhall be the repreſentation or ſhadow of this *Periphery*, ſo we ſhall have all the *Circles*, and all the places of the Earth repreſented on a *Table*.

The whole Superficies of the Earth being round, cannot be ſo well repreſented on a Plain, as otherwiſe it is.

But becauſe the Earth is round, therefore the whole Superficies of the Earth with all its places, cannot commodiouſly be repreſented on one *plain*, becauſe they ſhould make two places one and the ſame *point* on the *plain*, and thoſe that are ſcituated beyond the *Hemiſphere*, would be repreſented with a falſe face: therefore half the Superficies of the Earth muſt be repreſented on one *Table*, and the other half on the other. And ſo the Eye may be taken within the Earth it ſelf, *viz.* when we take up one *Hemiſphere* to be repreſented, the Eye is conceived to be placed in the other *Hemiſphere*, and the *Table* between that and the *Hemiſphere* to be repreſented. The ſame muſt be underſtood, if that only part of the Superficies, as *Europe*, *Aſia*, *Spain*, muſt be repreſented on the *Table*, for then we may aſſume the place of the Eye in the very *Center* of the Earth, if we pleaſe.

From theſe I think the *Reader* may ſufficiently underſtand the *nature* and *Mode* of this *Perſpective Art*, by which the places of the Earth are repreſented on a *plain*. The other two are more fully to be explained, from thoſe which we have ſpoken of in this Method. Becauſe from thence dependeth the variety and diverſity of *Geographical Tables*.

We have ſaid that a *point* muſt be taken for the repreſentation for the place of the Eye without the Object to be repreſented, as without the *Hemiſphere* of the Earth, or without the Superficies of *Spain*, or *Europe*. And therefore becauſe there is an infinite ſpace about any Object, and on that account there are infinite *points*, in which the Eye may be put contemplating the Superficies of the Earth, (or *Europe*, or *Aſia*,) if that a particular *Table* muſt be made, and if the Rays be drawn to divers *points* from the ſame *points* of the Object, or Superficies, which may penetrate the ſame *Table*, the penetration of the Rays is made in a very different place and ſcituation, and therefore very unlike Figures ariſe thence in the *Table*; thence it cometh to paſs that according to the various ſcituation of the Eye (which we attribute to it without the Earth, or without that part which it ought to repreſent) there ariſeth a various repreſentation of that Superficies on the *Table*.

For as there exiſteth another ſort of *Frontiſpiece* of the *walls* of an *houſe*, when the Eye may behold it from a ſcituation directly oppoſite; another from an oblique ſcituation; another from an upper place; another from a long place, and ſo changing according to the various ſcituation of the Eye (which *Tutors* may explain by *Diagrams*); ſo there ariſeth a different poſition of the parts of the Earth to be repreſented on the *Table*, if that the Eye be ſo conſtituted, or conceived in the *Air* in ſuch a ſcituation, that it may hang over the *Æquator* of the Earth; and otherwiſe, if that it be ſuppoſed to exiſt in the pretended *Axis* of the Earth, or in the *Semi-Axis* of the *Hemiſphere*, and otherwiſe if it be conceived to be eminent over any other place of the Earth. Thence it cometh to paſs that both the *Æquator*, and the Parallels, as well as the Meridians, obtain various repreſentations, becauſe the Rays drawn from them, exiſting in the Earth to the Eye perforate the *Tables* in divers *points*, endued with a various ſcituation, which the *Readers* may eaſily underſtand, if that they have the living information and direction of a *Tutor*.

The Direction of a *Tutor* very profitable.

The other, which I eſteem fit for the Readers conſideration *in this* Method *for his better* underſtanding, *is concerning the* cauſe *of the variety in the* Magnitude *of* Tables, *and* repreſentations: for we can ſhew the ſame Superficies of the Earth, as alſo of all the Bodies of the *World*, as *Temples*, *Houſes*, and the like, on a great or ſmall *Table*. The Cauſe is twofold, firſt, by how much the Eye is placed more remote from the Earth, or any Object, by ſo much the repreſentation receiveth the leſſer *Magnitude*, *viz.* the ſcituation of the *Table* or *Glaſs* ſo remaining. 2. How much the *Table*, or *Glaſs* (in which the repreſentation ſhould be made by the perforation of the Rays) is nearer moved to the Eye, by

so much the representation or projecture receiveth, the lesser form; by how much the nearer to the Object, so much the greater.

But if the Eye may be removed in any kind from the Object, (the *Table* remaining) so that it be removed in the same Line with the *Center* of the Earth, or so that it remain in one Perpendicular Line, to the Superficies of the Earth, therefore the Figure of the projecture is not changed, but only the *Magnitude*, the *similitude* remaineth. So also if that the *Table* be any ways moved to the Eye, or removed towards the Object, all the projectures do become of a divers *Magnitude*, yet they remain mutually alike, and represent all the places in a like scituation, so that the *Table* shall observe the Parallel scituated from the Eye in his *access*, and *recess*. But if the *Table* receiveth another *position*, and also if the Eye be not only removed, but also recedeth from that Perpendicular Line, then the like projectures shall not arise; and the places shall not have the like scituation on the Earth, but besides a various *Magnitude*, there shall also be a notable *dissimilitude* in the scituation of the places, one to the other.

But in the projectures of all Bodies, as also in the projecture of the Superficies of the Earth, it is so wont to happen, that we attribute such a scituation to the *Table* or *Glass*, that it may touch the Body or Superficies in that Point to which the Line drawn is Perpendicular to the Superficies of the Body, or which is drawn from the Eye to the *Center* of the Earth: now to obtain the lesser or greater projecture we remove the Point of the Eye more or less from the Earth. But then we conceive the Earth to be very small.

This in general being explained concerning the projecture of the Earth, and the Original of *Geographical Maps*, we shall shew the Method of doing it: where first we shall shew whether these *Tables* should be made according to the Rules of *Perspective*, and whether all may be made according to them, for the end of these *Tables* or *Maps* is to the life, and exactly as may be to express the scituation of the places in the Superficies of the Earth. Therefore it is demanded and that not unadvisedly, whether this may be done by another Method, which observeth not the Rules of *Perspective*; for whether it be done according to the Rules of *Perspective*, or contrary to them, so that it exactly representeth the scituation of the places, the *Table* shall be accounted to be well done. To that I answer, that although certain *Tables* of some small *Province* may be made, and are also made by another Method, *to wit*, by *Angles* of *position*, or also by *distances*, as we shall shew in the last place, yet in a great part of the Superficies of the Earth it cannot be performed by a more commodious Method, than by the Rules of *Perspective*, although the true scituation of the places may not be represented in the *Tables* made according to these Rules.

Things to be known about the making of these Maps.

For we must know that in making of these Maps we must attend to a threefold end. 1. That all the places must have such a scituation and *distance* to the chief *Circles* of the Earth, as the *Æquator*, the Parallels, the Meridians, as they have in the Earth it self, so that from those *Tables* the Parallels of every place, the *distance* from the *Æquator*, from the Pole, the *Zone*, the *Climate*, &c. may be beheld, because that from thence many properties of the Regions and *Celestial appearances* do depend. 2. That the *Magnitudes* of every Region may have that proportion that they have in the Earth it self. 3. That every place may have the same scituation to the other mutually which they have in the Earth it self.

Of these three requisites all Maps or *Tables* ought exactly to perform the first, and for the most part exactly do, because they are made from the *Table* of *Latitude* and *Longitude* of places; neither do the Rules of *Perspective* hinder the same. But for the second, they cannot accurately perform the same if that the Rules of *Perspective* be observed, because the crooked paths of the Superficies being more remote from the Eye, makes the representation lesser in the *Glass* than those parts subjected to the Eye; but yet that inequality is small and becometh insensible, if that the Eye be conceived to be remote an infinite interval from the Earth. But the third requisite can be performed by no larger *Tables*, such are those of the whole Earth, also those of the *Quar.* of the Earth and the greater *Provinces* although they may accomplish it in the lesser *Regions*, and the vulgar

suppose

suppose that it may be had in the larger Maps. But we shall more fully explicate this in the description. Only this we shall here advise in general, that in all Maps which we have, or which are sold by *Artificers*, *viz.* those that are universal, that place must be taken for the *point*, which shall be directly subject to the Eye in the projecture; that place I say of the Earth which is seated in the middle of the *Table*, for here we must conceive the Eye to hang over. This hath place in many particular ones, yet not in all.

Moreover you may make the following Rules to be more plain, if that you make use of several Maps, which will the more illustrate and explain our Rules by the *Examples*.

Maps necessary to be used.

The first easy Mode, the Eye being placed in the Axis.

In the first place, I exhibit this Method of painting the *Hemisphere* of the Earth, which placeth the Eye in some Point of the *Axis* of the Earth. For *Example*, we would represent the *Arctick Hemisphere* of the Earth, *to wit*, that which lyeth between the *Æquator* and the *Arctick Pole*, and the places contained it, that is a, *Geographical Map* must be made of the *Arctick* Globe. Therefore we shall conceive the Eye to be placed without this *Hemisphere*, that it may hang over the middle Point of that *Hemisphere*, *viz.* the *Pole Arctick*, that the Eye may be with the *Pole Arctick*, and the *Center* of the Earth in one *streight line*, that is, that the Eye may be in the *Axis* of the Earth. And therefore it shall be either in the *Axis* from the part of the *Æquator* towards the *Antarctick Pole*, or in the *Axis* extended from the part of the *Pole Arctick*. But it matters not in what part it be put. For the *Table* or *Glass* in which the representation ought to be, let the place of the *Æquator* be taken, or some *Tangent* of the Earth in the *Pole Arctick*, if that the Eye be conceived to be placed from this part. But to avoid confusion, and the better to express our selves, let us suppose the Eye to be placed in the *Antarctick Pole*, the Plain of the *Æquator* to be the *Table*. Moreover we conceive Rayes to be emitted from all the places and *Peripheries* of the *Arctick Hemisphere*, (whether it possess the *Antarctick*, or other Point of the *Axis*) which Rayes therefore shall penetrate the place of the *Æquator*. The Points in which the perforation is made, shall exhibit every place of that *Hemisphere* of the Earth, and the points made from the perforating Rays, the *Peripheries* of the *Tropick*, if they be joyned, do exhibit the Lines which represent those *Peripheries*. By this Method it cometh to pass that the *Æquator* becometh the term of this projecture: the *Pole* of the Earth may be represented from the *Center* of this *Circle*, or of the *Æquator*: the Meridians make right Lines, all passing through the *Pole*, even to the *Æquator*, the Parallels of the *Æquator*, or the *Circles* of *Latitude*, the *Tropick* of *Cancer*, the *Arctick Pole*, and the like. Also by this projecture may be made these *Circles*, or *Peripheries*, whose *Center* is the same with that of the *Æquator*, *viz.* the Point, which representeth the *Pole Arctick*. But the places of the Earth are represented every one in their *Peripheries* of *Latitude*, and the Meridian Line, *viz.* where the Meridian Line of the place cutteth the Parallel of the place, the Point of the Section is the representation of the place. But all the other *Peripheries* and *Semiperipheries*, which may be conceived in that *Hemisphere*, do not make in projecture *streight lines*, or Circular, but *Eclipses*: for *Example*, if we will represent the *Horizon* and *vertical Circles* of any place, all these in their projecture shall make *Ecliptick Arches*.

See Scheme. Of the Hemisphere of the Earth which placeth the Eye in some Point of the *Axis* of the Earth.

We conceive the Earth to be of a small Magnitude.

For the more easy imagination of projecture, by which *Circles* are represented in a *Table*, a radious *Cone* must be conceived, whose *Vertex* must be the Eye, let the *Circle* of the Earth to be represented be the *basis*, let the *sides* be the *rays* drawn from the *Periphery* to the Eye: moreover this *Cone* to be cut by the *Table*, and according to the various position, a various Line and Section to be made, which is the projecture of the assumed *Periphery* on the Earth. So also the *Ecliptick* it self, whose half only is represented with the *Arctick Hemisphere*, maketh a portion of the *Ecliptick*. But yet to speak properly, the *Ecliptick* it self is not represented, because it cannot be conceived immutable on the Earth, but only in a certain scituation, or at a certain moment of the day, and his in-

intersection may be taken with the *Æquator* in any *point* of the *Æquator*, yet in all Maps by reason of its Commodity, the intersection of the first Meridian is assumed with the *Æquator*.

How Tables of the first sort are to be described by practice.

So therefore we have distinctly explained the Original and Method of the first sort of *Tables* or Maps, which have the Eye in the *Axis: now I shall shew how such a Table is to be described in practice.* In any Plain or paper let the middle *point* P, be taken for the Pole, and from that as from a *Center*, let the great or small *Periphery* be drawn (as we desire to have our Maps great or small) which we shall have for the *Æquator*. These two may be taken at pleasure, but the other *points* and *Peripheries* shall be found from them. Let the *Æquator* be divided into 360 *deg.* and *streight lines* being drawn through the *Center* and the beginning of every *deg.* these shall be the Meridians, from which that which is drawn at the beginning of the first *degree* from these 360, shall be taken for the first, so the rest of the *lines* shall shew the rest of the Meridians and *Longitudes* of the Earth from the first Meridian. Now the Parallels of *Latitude* must be described. There are four *Quadrants*, or quarters of the *Æquator*, the first 0, 90: the second 90, 108: the third 180, 270: and the fourth 270, 0. Let those be noted for the more easy appellation with the letters A B, B C, C D, D A, and let one be taken from these, for *Example*, B C, from every one of whose *degrees* as also from the 20 *deg.* 30 *min.* and the 66 *deg.* 30 *min.*, let occult *streight lines* be drawn to the *point* D, (the term of the *Diameter* B D) or let the *Rule* be only applyed to D, and brought round through every *degree* of the *Quadrant* B C: and let the 23 *deg.* 30 *min.* and the 66 *deg.* 30 *min.* in which these *streight lines* cut the *Semidiamiter* P C, be noted, and from P as from a *Center*, and the *Peripheries* be described through every *point* taken in P C. These *Peripheries* shall be the Parallels of the *Latitudes* unto which in the first, and opposite Meridian, *viz.* A P, and C P, the numbers may be ascribed from the *Æquator* towards P, *to wit*, 1, 2, 3, 4, even to 90, so that the *Latitude* of every one may be conspicuous: but at the Parallel 23 *deg.* 30 *min.* the *Tropick* of *Cancer* shall be ascribed; at the 66 *degree* 30 *min.* the *Arctick Circle*. In the *Praxis* neither all the Meridians, nor all the Parallels must be coloured, but only every tenth, the rest must be represented with occult or obscure *lines*.

After all the Meridians and Parallels are described, it is easy to note from the *Table* of *Longitude* and *Latitude* of places, the places of the Earth, *viz.* of its Superficies; let the *Longitude* of any place be accounted from the first assumed Meridian in the *Æquator*, so we fall into the Meridian of the place; then from the *Latitude* of the place we choose a Parallel of the same *Latitude*, and the *point* where the Meridian cutteth the Parallel is the *point*, which representeth the assumed place of the Earth, whose appellation is to be ascribed unto it, and so we shall act with the inscription or projecture of any place to be taken, until the Maps, or *Tables* be finished.

Rules to be observed if the Semicircle of the Ecliptick be to be noted.

If the Semicircle also of the *Ecliptick* be to be noted in it, that must be done before the designation of the places. We have said that the *Ecliptick* maketh the *Ecliptick line* in projecture, therefore its *points* through which that portion of the *Eclipsis* must be drawn, ought to be found. That is taken for the first *point*, or for the intersection of the *Ecliptick*, and the *Æquator*, in which the first Meridian cutteth the *Æquator*, which therefore is noted in the sign of *Aries*. But the last *point* of this half *Eclipsis*, or the other intersection of the *Æquator*, and the *Ecliptick*, *viz.* the end of *Virgo* shall be in 180, the opposite *point* of the *Æquator*, the intermedial *point* is that in which the Meridian 90, cutteth the *Tropick* of *Cancer*. So we have gotten three *points*, through which the portion of the *Eclipsis* to be described passeth, (which is lesser than the half *Eclipsis* (which are the *points* of the 1 *deg.* of *Aries*, *Cancer*, and *Libra*: for finding the other *points*, as the 1 *deg.* of *Taurus* and 15; the 1 *deg.* and the 15 *degrees* of *Gemini*; the 1 *deg.* of *Leo*; the 1 *deg.* of *Virgo*, the *Declinations* of these *points* must be taken from the *Table* and the right *Ascension* which are here ascribed.

Decli-

	Declination. deg.	min.	Right Ascension. deg.	min.		
The 15 of *Aries* and *Virgo*	5	56	13	48	166	for the 15 *deg.* of *Virgo*.
The 1 of *Taurus* and *Virgo*	11	31	27	0	152	for the beginning of *Virg.*
The 15 of *Taurus* and *Leo*	16	24	42	0	187	for the 15 *deg.* of *Leo*.
The 1 of *Gemini* and *Leo*	20	13	57	0	122	for the beginning of *Leo*
The 15 of *Gemini* & *Cancer*	22	41	73	0	106	for the 15 *deg.* of *Cancer*.

Then where the Meridian 13 *deg.* or 4 *deg.* cutteth the Parallel 5 *deg.* or rather 6 *deg.* that *point* shall be the 15 *deg.* of *Aries*; also where the Meridian 27 cutteth the Parallel 11 ½, there shall be the 1 *deg.* of *Taurus*, so where the Meridian 42, the Parallel 16 *deg.* where the 15 *deg.* of *Taurus*, and where the Meridian 106 cutteth the Parallel 22 *deg.* 41 *min.* there shall be the 15 *deg.* of *Cancer*: where the Meridian 122 cutteth the Parallel 20, there shall be the beginning of *Leo*: and so the other Meridians 137, 152, 166, cut the Parallels 16, 11, 5, for the 15 *deg.* of *Leo* in the beginning of *Virgo*, and the 15 of *Virgo*. These *points* being joyned by a Crooked Line, we shall have the portion of the *Eclipsis* for the *Semicircles* of the *Boreal Ecliptick*, whose *points* and *degrees* are easily noted in every *figu*, if that you take *Declinations* for every one out of the *Tables*, and *Right Ascensions*, by that *Mode*, by which we have signed the *degree*, the 15 *deg.* of *Taurus*, the 1 *deg.* of *Gemini* and the like.

This being done, the Composition of this *Geographical Map* is finished, which shall represent the half Superficies of the Earth, *to wit*, the part between the *Æquator*, and the *Pole Arctick*.

That this *Mode* is most easy and pleasant will be manifest from the Description, and the *Praxis* will shew it: now we shall speak of its *use* and *inconveniences*: we have said before that three things are required in a *Map*, or that they are made for a threefold end: The first of these, the *Maps* made by this Method do accurately enough discover, *viz.* the *Latitude* and *Longitude* of every place, because they are made from a *Table* of *Latitudes* and *Longitudes*: also they shew the distance of places from the Course or way of the *Sun*, or *Zones*. The second requisite, *to wit*, the due proportion of the *Magnitude* of every *Region*; *Maps* of this sort do not altogether perform, for *Regions*, by how much they are more near the *Æquator*, by so much the more they receive the greater place in this projecture, than they ought to have by their own proportion, But this difference is small, by reason of the great distance of the Eye, and this defect is compensated by that Commodity, that the places may the better be noted, by reason few *Regions* are inhabited about the *Pole*, but many towards the *Æquator*. But the third end, *viz.* the situation of one place to another, and the distance of places cannot be performed by these *Tables*, because the Lines, which note such places in the *Maps*, have another situation, and proportion, than in the Earth. But if you please to examine the situation of one place, to the situation of other places, and the rising and stay of the *Sun* above the *Horizon* of the same, the *Horizon* of that place may be drawn in an *Ecliptical form* in this Method: Let 90 *degrees* on both sides be reckoned in the *Æquator* from the Meridian of the given place, one of the terms of the *Numeration* shall one *point* of the Horizon to be drawn, *viz.* the *Oriental point*, in which the *Æquator* cutteth the *Horizon*. The other term again shall be the *point* of the *Horizon* for the

Maps are made for a threefold end.

Few Regions Inhabited about the *Pole*, but many towards the *Æquator*.

Æqui-

Æquinoctial setting. Moreover in the opposite *Quadrant* of the Meridian of the place, let so many Parallels be accounted from the Pole towards the *Æquator*, as the Parallel of the place is distant from the *Æquator*. The term of the Numeration shall shew the third Point of the Horizon, *viz.* the Northern *Cardo*, (we shall shew how to find the Point of the South *Cardo*, in that which we shall annex by and by; if a greater portion than that of the *Hemisphere*, be to be represented on the Map, for it is not to be found in the *Hemisphere*, only except the Horizon of the Pole, which is the very *Æquator*). So we shall have three or four chief Points, through which the Horizon ought to pass. To find out the other Points, there is no more commodious way than by the benefit of the Globe, *viz.* let the Pole be Elevated for the *Latitude* of the place assumed; then in every Parallel let one Point be chosen, through which the first Meridian passeth, and let that be brought to the Meridian, which done, let the *degree* under the Meridian be noted, and so you must do in every Parallel. These being noted, let so many *degrees* be reckoned on both sides from every Parallel from the Meridian of the place given in the Map on the *Æquator*, *viz.* for 10*th*, 20*th*, 30*th*, and so on; and where the Meridians cut the convenient Parallels, they shall be the *points* demanded, *to wit*, through which the Horizon is to be drawn, and the situation of the other places may be examined in some measure at that.

By this Method the whole Superficies of the Earth may almost be represented on one *Table*, if that either of the Poles, *viz.* the *Antarctick* be assumed for the Eye, if a *Table* or *Glass plain* be taken of any Parallel near the Pole, for instance, the *plain* of the *Arctick* Pole, and the *Antarctick Circle* on one *plain*, neither doth any thing else remain to be done, or added to the former construction, but that the Meridian Lines should be protracted, and the Parallels drawn from the other part of the *Æquator*. Then let the whole *Ecliptick* be drawn, and if you please, let the Horizon be compleated. But seeing that the *parts* and *degrees* situated beyond the *Æquator*, towards the *Antarctick* Pole, by this Mode would become far greater, than the parts about, and in the *Æquator*, which is contrary to the truth of the matter, therefore it is better to make the projecture on two *Hemispheres*, that one may shew the *Arctick Orb*, the other the *Antarctick*.

Tables described according to this Method are very few: to general Maps of Right Lines, two other Maps very small, described in this Method, are wont to be added, whereof one exhibiteth the Regions about the *Arctick Pole*, the other those about the *Antarctick*, which the Reader may look upon for the better understanding of what hath been said. But these are better learned from *practice* than from *precepts*.

The second Mode, the Eye being placed in the plain of the Æquator.

The second Mode. See Schem.

The preceeding Mode of describing of *Geographical* Maps doth neither fitly shew the *Magnitudes* and situation of places, neither is commodious to describe the *Hemisphere* intercepted between the two Poles; and to represent all the places lying in the same Meridian: moreover it seemeth to be repugnant to our conception, that the Pole of the Earth should fall into the *Center*, and therefore those described *Tables* afford a more difficult imagination. Therefore another Method hath been found, which is somewhat more hard than the former, but more aptly representeth the places of the Earth, and removeth the Pole from the *Æquator*.

For the conceiving of this Method, we must understand the Superficies of the Earth to be cut into two *Hemispheres* from the whole *Periphery* of the Meridian, and in two *Tables* we exhibit those *Hemispheres*, one in one, the other in the other. The Eye is placed in the Point of the *Æquator*, which is removed 90 *degrees* from the first Meridian: the *Table* or *Glass* in which this representation ought to be made, is assumed; the place of the first Meridian and *Hemisphere*, (which lyeth beneath that Plain in respect of the Eye) is taken to represent it on the Plain. In this form of projecture the *Semicircle* of the *Æquator* becometh

cometh a right Line, and that Meridian which is distant from the first 90 *degrees*, unto which the eye is conceived eminent, will also become the Right Line: all the other Meridians, and all the Parallels of the *Æquator*, become the *Arches* of the *Circles*, because their *Cones* are cut from the Plain of the *Tables* by a subcontrary Section. The explication of which must be demanded from the *Conical Doctrine*, and may better be shewed than expressed. But the *Ecliptick* becometh a portion of the *Ecliptis* for the Cause alledged in the former Method.

The description Mathematically explained.

This *Description* is thus made: the *point* E, being taken for the *Center* in the *Table*, a great or small *Periphery* of the *Circle* is described, A B C D, (as we desire to have the *Table* great or small). This representeth the first Meridian, and its opposite, *viz.* the *Diameter* B D, being drawn, there arise two *Semiperipheries*, whereof one B A D, is the first Meridian, the other B C D, is the opposite, or of *Longitude* 180. This *Diameter* B D, representeth the Meridian 90 *degrees* distant from the first, and his *point* D, is one Pole, *viz.* the *Arctick*, but the *point* D, is the Pole *Antarctick*: the *Diameter* A C, to B D, is the perpendicular Line of the *Æquator*. Let these *Quadrants* A B, B C, C D, D A, be divided every one into 90 *degrees*. Moreover we must do thus for the representation of the Meridians, and Parallels, or for the finding out the *Arches* of the Meridians, and Parallels. First, the Line of the *Æquator*, A C, must be divided into its *degrees*, *to wit*, 180, (because it only sheweth half the *Æquator*) or A E, E C into 90, after this Mode: from the *point* D, let the *Semiperipheries*, right Lines, A B C be drawn to every *degree*, or which is as well, let the Rule be applyed to the *point* D, and to every *degree* of the *Semiperiphery* A B C: these Lines shall cut the Line of the *Æquator* into 180 parts, which shall represent the *degrees*, which are the *degrees* of *Longitude*, and therefore the numbers 1, 2, 3, 4, and the like, must be ascribed, beginning from the first Meridian D A B. Through every one of these *points*, 1, 2, 3, and both the Poles B D, the *Arches* of the *Circles* must be described, which shall represent the Meridians. But how the *Periphery* must be described through these three given *points*, for *Example*, B, D, or B 2 D, and the like, is taught by *Geometry*, *viz.* you must find the *Centers* for every *Periphery* to be described, which *Centers* are placed in the very Line of the *Æquator*, as is the *Center* E, of the Meridian D A B. Those *points* are found according to *Euclids* Method, *Proposition* 1. *Lib.* 3. if the Lines B 1, B 2, B 3, *&c.* be doubly cut by the *perpendicular lines* (this is most easy by the application of the Rule): where these *perpendicular lines* fall into the protracted Line E C of the *Æquator*, if there be need, there are the *Centers* for the describing of the *Arches*, B 1 D, B 2 D, *&c.* But the *Centers* of the *Arches* B 91 D, B 92 D, B 93 D, *&c.* fall into E A; if that need be to protract it. But the more easy invention in practice is, if that Right Lines be drawn from B, through every *degree* of the *Quadrants* B A, B C, even to the protended Line A C, which make these *points* a, b, c, d, e, and the like. So that 1 A, shall be the *Diameter* of the Meridian through which the 1 ought to pass, and the 26 of that which passeth through the 2, and so the 3 c, 4 d, *&c.* if therefore 14, 26, 30, 4 d, *&c.* be bisected, we have the *Center* of the Meridian to be described.

See *Euclids lib.* 3. Proposition 1.

But the operation will be less obnoxious to error, and more easy (especially in great Maps) by a *Canon* of *Tangents*, for so we shall have no need to draw Lines. For to divide E A, E C, E B, E D into *degrees*, we thus act: we divide E B, in the opposite scale into 10000 parts. Then from the *Canon* we take *Tangents* ½ *degree*, 1 *deg.* 1 ½ *deg.* 2, 2 ½, 3, 3 ½, 4, and the like; and we put every one of these *Tangents* taken from the opposite scale in E A, E C, E B, E D, from E; so two near *points* shall contain one *degree*, the ascription must be made as before. Then at the *Centers* of every one of the Meridians to be found in E A, E C, the number must be taken from 90 *degrees* (or the very number from the *Complement* it self) let the *Tangent* of the residue be taken from the *Canon*, and be placed from E, in E C, or E A. The term shall be the *Center* of the Meridian to be described through the assumed *degrees*. So we must

must do with all the Meridians. Practice will shew this to be easy. The foundation of this latter operation for the finding out the *Centers*, is a *Trigonometrical Theorem*. The difference of the *Tangents* of two *Arches* together filling up the *Quadrant*, is double to the *Tangent* of the difference of the *Arches*. So therefore the Meridians are represented.

To draw the *Arches* of the Parallels, the Meridian D B, must be divided after the same manner into 180 *degrees*, as the *Quadrants* of the *Æquator* E A, E C, if that *occult lines* be drawn from C, to every *degree* of the *Periphery* D A B: but there is no need of this, when those parts may be transferred from E A, into E B, the *points* or *degrees* from E, towards B, must be numbred from the *Æquator* to the Pole, 1, 2, 3, 4, and the like. So from E, towards the other Pole D.

Then through every one of these *points*, and *degrees* of the *Quadrants* of the like named number A B, C B, the *Arches* of the *Circles* must be described, *viz.* through the first *degrees*, then from the beginning of the third, and the like. And so from the other *quarters* of the *Æquator* towords D. So we obtain the Parallels of all *degrees*, and the *Polary Tropicks*, with their Meridians first found out.

A twofold Method for the designing the Ecliptick.

To design the *Ecliptick*, there is a twofold Method, for we either put the scituation of the *Ecliptick* on, or above the Earth, that his intersection with the *Æquator*, or the beginning of *Aries*, may hang over the place E, and in this scituation the projecture of the Semicircles of the *Ecliptick*, from the 1 *deg.* of *Cancer*, to the 1 of *Capricorn*, on the *Table* is a Right Line: *to wit*, let the 23 *deg.* 30 *min.* be numbred from A, towards B, and let the *Diameter* be drawn through E, from the term of the *Numeration*. This shall represent the Semicircle of the *Ecliptick* in that scituation. Which *line* shall be divided after the same Mode into *degrees*, as the *Semiquator* A C. For the *point* in the *Quadrant* B C, where the *Arctick Circle* falleth in, *viz.* 66 ½ of a *degree*, is that from whence if that *streight lines* be drawn to every *degree* of the *Semiperiphery* F A D G, they shall cut E F into 90 *degrees*, and after the same Mode E G: to which the *numbers*, and *signs* of *Aries*, *Taurus*, *Gemini*, and so on, must be ascribed.

If the scituation of the *Ecliptick* be put such that his intersection and that of the *Æquator* may hang over the place A in the first Meridian, then his projecture shall become a portion of the *Eclipsis*; whose two *points* are A, C; the third, that in which the Meridian 90 cutteth the *Tropick* of *Cancer*; the other *points* shall be found by the same Mode, which we have explained in the first Mode, *viz.* if that we have the *Declinations* and Right *Ascensions* of the 15 *degree* of *Aries*, the 1 of *Taurus*, the 15 of *Taurus*, and the like; where the Parallels of every one of the *degrees* of the *Declinations* cut the Meridians taken for every Right *Ascension*. Those *points* of the Sections are the 15 of *Aries*, the 1 of *Taurus*, and so on through those. Therefore if a Crooked *line* be drawn, we shall have the projecture of the *Ecliptick*, because it so remaineth continued in two *Hemispheres*.

Moreover to the ascribing of every one of these places in their *Tables*, *Longitudes*, and *Latitudes* must be excepted from the *Tables* of every place, and where the Parallel of *Latitude* of any place cutteth the Meridian of the *Longitude* of the same place, that *point* representeth that place on the *Table*, whose appellation is to be ascribed, and so all the places are to be designed.

After the same Method the whole Superficies of the Earth may be represented on one *Table*, if that the *plain* of the first Meridian be not taken for the *Glass*, but one Parallel to it, and that very near to the Eye: for so whole Parallels, and whole Meridians, or every continued Meridian may be described in their opposites. But thence there will arise a divers appearance from the true Superficies of the Earth, and therefore it is omitted by *Artificers*, who rather exhibit two *Hemispheres* on one Map. But it is useful that *practitioners* should exercise themselves in these. But then it will be more commodious to place the Eye in the first Meridian, so that B D may be the first; the *line* of

of the *Æquator* shall not be A C, but another drawn from the *point* of the right *line* E D, which shall be divided into so many *degrees*, as are in the *Arch* taken away by the same Artifice.

The second praise is, that it aptly exhibiteth the *Hemisphere* intercepted between the Poles.

The third is, that it almost sheweth the *Latitudes* and *Longitudes* of every place, and distance from the *Æquator*, and Pole, as they lie in the Earth.

The defects. The defects are, that first it hath unequal *degrees* of the *Æquator*, *viz.* in how much they are more near the first Meridian D A B, or the opposite B C D, by so much they are the greater, and therefore the equal Regions of the Earth in these *Tables*, are also made unequal, as in the preceding Mode (this defect may be in part corrected, if the Eye be removed far from the Earth): *viz.* the Regions about E are lesser, about A C greater than they ought by proportion to be: after the same manner the Regions about the Pole B, D are made bigger than they ought. Secondly, the scituation of one place to another cannot be commodiously examined, neither thence can we find the distances of places.

The third, fourth, and fifth Mode of Right lined Maps.

The 3d. 4th. 5th. Mode of Right lined Maps. See Scheme in Plate. There are sold by *Artificers*, *Universal Geographical* Maps of Right *lines*; *viz.* in which both the *Circles* of *Longitude* (Meridians) and of *Latitude*, (Parallels) are designed by Right *lines*, which is impossible according to the Rules of *Perspective*; neither can there be any scituation or position assigned to the Eye or *Glass*, that both the kinds of *Circles*, *viz.* *Latitude*, and *Longitude*, may become Right *lines*, but either of the *Circles* may be represented by Right *lines*. In the first Method, which we have explained of the Meridian or *Longitude* of *Circles*, Right *lines* are made according to *Perspective*, and the *Circles* of *Latitude* become *Circles*, not Right *lines*: but in the fifth Method following, the *Circles* of *Latitude* become Right *lines*, but the Meridian *Circles*, crooked *Ellipses*. In other Methods which are instituted according to the Rules of *Perspective*, both kinds become Crooked *lines*, except yet in one Method, according unto which the Meridians become Right *lines*, but the *Circles* of *Latitude* become *Hyperboles*, *to wit*, if the Eye be placed in the *Center* of the Earth, and beholdeth the *Hemisphere* from either part of the first Meridian; but the *Table*, or *Glass*, through which the aspect is made, becometh the plain Parallel to the first Meridian. For so the Meridians shall become *streight lines*, and the *Circles* of *Latitude* shall be *Hyperboles*. The division of the *line* of the *Æquator*, and of the Meridians according unto this Method into *degrees* is easy: and those who are delighted with the variety of these things may try this Mode with pleasure: but by reason of the description of *Hyperboles*, it is less fit for practice: therefore we shall say no more concerning it; those who will attempt it, let them use a *Tutor*. Therefore Maps of Right *lines* are not made according to *Perspective*, but contrary to the same, as hath been said. They are found to be twofold, or of two sorts. Some account both the Rules of *Latitude* and *Longitude* equal, such as were made in times past: but others, as those which are now made, have the Rules of *Longitude*, or of the *Æquator* equal (which is contrary to *Perspective*) but not the *degrees* of *Latitude*, or of the Meridians. For they augment the *Magnitude* of these towards the Poles more and more, so that to 88 *degrees*, the *degree* is twice double more than to the *Æquator*, and then the *degrees* more near the Pole, may receive almost an infinite *Magnitude*, which cannot be expressed in any Map, which encrease is contrary to *Perspective*, which only granteth a small augmentation.

The Rules of *Perspective* necessary to be understood.

The Instructions of a *Tutor* good.

Right lined Maps.

Right *lined* Maps of the first Mode are the most easy of all others. For A b, being taken for the *Longitude*, the Map is divided into 180, (for one *Hemisphere*) equal parts, which shall be *degrees*; and the Meridians, *viz.* Right perpendicular *lines* are drawn through every *degree*, and in these parts equal to them are taken, which are taken in the *line* of the *Æquator*, and right *lines* Parallel to the *Æquator*, are drawn through every part (which denote the *deg.* of *Latitude*) these shall be the *Circles* of *Latitude*. Any places shall be signed, as in the former Mode, *viz.* where the Meridian of that place, and the *Circle* of *Latitude* meet.

The second Mode of Right lined Maps.

Now the second Mode of Maps of right *lines*, in the division of the *Æquator* into equall *degrees*, differeth not from the former, and therefore the assumed A B, is divided into 180 equal parts (for either *Hemisphere*) as in the former, and right perpendicular *lines* are drawn through every one of them which design the Meridians or *Circles* or *Circles* of *Longitude*. But they observe another Method to the designing the *Circles* of *Latitude*, or Parallels of the *Æquator*. For the Meridians are not divided into equal *degrees*, but into unequal, as aforesaid, so that they encrease towards the Poles. The Cause is, because other Maps do not shew the true *position* of one place to the other, or rather a Nautical *line*, from one place to another, neither admit the finding out the distance, but they determine these two may be obtained by Maps of this kind. For because the Meridians are all drawn through the *degrees* of the *lines* of the *Æquator* equally distant one to another, thence it cometh to pass that the places or *points* scituated in every Meridian, are so much the more removed above the true distance from the first Meridian, by how much they come nearer the Pole from the *Æquator*: *viz.* the distance in *Charts*, from the first Meridian, so much exceedeth the lawful distance, as the *Semidiameter*, or whole *sinus*, exceedeth the *Sine* of the *Complement* of *Latitude* of any place, so one *degree* or more to the *Circle* of this *Latitude*. And therefore the *degrees* in these *Circles* ought to be exhibited lesser than in the *Æquator*, and by so much the more lesser, by how much those *Circles* are more near the Poles. But in Maps of right *lines*, because the Meridians are drawn equally distant, they do not become lesser, but equal in all Parallels. How much therefore the *degrees* in every *Circle* of *Latitude*, are augmented above their due *Magnitude*, so much the *degrees* of *Latitude*, every one ought to increase in these Maps, above the *Magnitude* of one *degree* in the *Æquator*. That is done thus in this Method in designing the *Magnitude* in every *degree*: As the quantity of one *degree* in every Parallel is to the quantity of one *degree* in the *Æquator*, that is, as the *sinus* of the *Complement* of any Parallel beginning that *degree*, is to the whole *Sine*, so is the *Magnitude* of the part in the *Æquator*, which designeth one *degree*, to the *Magnitude* of the part which shall denote this *degree* in the Meridian, from whose beginning that Parallel is drawn. But if you will act more exactly, the *sinus* of the *Complement* of *Latitude* of any Parallel is not to be taken, but the *sinus* of the *Complement* of *Latitude*, which beginneth the *degree*, is to be added to the *sinus* of the *Complement* which terminateth that *degree*, and half of the aggregated *Complement* must be taken for the first term in the Rule of *proportion*.

Example.

If a term be to be designed in the first Meridian for the first *degree* of *Latitude* in the *Æquator*, let the *Magnitude* of one *degree* of the *Æquator*, be of ten particles taken in the opposite Scale, according to the first *Proposition* his *Magnitude* shall become equal to the *deg.* of the *Æquator*; because the *Æquator* is the Parallel which beginneth this *deg.* but according to the II. *Proposition*, I take the *Sine* of the *Complement* 0 *degrees* of *Latitude*, which *Sinus* is 100000 (for the *Complement* is 90) and I add to the *Sine* of the *Complement* 1 *deg. viz.* to the *Sine* 89 *deg.* which is 99985, they become 199985, the

See Prop. 1.

the half 99992. Therefore as 99992, is to 100000, so is 10 (the *Magnitude* of a *degree* in the *Æquator*, or an equal *degree*) to $10\frac{80}{100000}$ for the first *degree*. But because the increase above 10 *particles* is so small, that it cannot be noted in a Map; therefore this *degree* becometh of 10 *particles*, *viz.* equal to a *degree* of the *Æquator*. But in progress made towards the Poles, the *degrees* more and more increase. For *Example*; let the *Magnitude* of 66 *degrees* be designed, *viz.* which is between the term of 59 *degrees*, and the beginning of 61 *degrees*. According to the first *Proposition*, the time of the *Complement* of the 59 *degree* is 51503. Therefore as 51503 is to 100000, so is 10 to $19\frac{1}{2}$, *particles* must be taken for the Scale, of which a *degree* in the *Æquator* containeth 10.

According to the second *Proposition* thus we must do. The Sine of the *Complement* of the 59 *deg.* is 51503. The Sine of the *Complement* of the 60 *degree* is 50000, the half of the *Aggregate* is 50751. Therefore as 50751 is to 100000, so is 10 to $19\frac{1}{2}$. Which *Magnitude* is very little bigger than the former, neither is it worth the pains.* Moreover when the *Magnitude* of the second *solitary degree* is found, it must be added to the *Magnitude* of the first *degree*: the *Aggregate* shall be the increasing *Latitude*, as much as is to be taken in the Meridian from the *Æquator*, for the term of the second *degree*. Then the found out *Magnitude* of the third *solitary degree*, must be added to the increasing *Latitude* of two *degrees* before laid down. So we shall have the *Magnitude* to be taken from the *Æquator* in the Meridian for the term of the third *degree*. And so you must do with the other *degrees*. Moreover that the labour may be more easy for the Studious, I have here set down a *Table* for the taking of the *terms* of every *degree* in the Meridian; I take such *particles* as one *degree* of the *Æquator* is put to have 100.

See Proposition 2.

The TABLE.

The Table for the taking the terms of every degree in the Meridian.

grad.	term.	grad.	term.	grad.	term.
1	100	29	3032	57	6976
2	200	30	3147	58	7157
3	300	31	3263	59	7349
4	400½	32	3347	60	7546
5	500⅔	33	3499	61	7749
6	601	34	3619	62	7960
7	702	35	3740	63	8175
8	802	36	3863	64	8399
9	903	37	3988	65	8631
10	1005	38	4114	66	8872
11	1107	39	4241	67	9023
12	1209	40	4371	68	9384
13	1311	41	4502	69	9691
14	1414	42	4636	70	9943
15	1517	43	4772	71	10243
16	1621	44	4909	72	10558
17	1725	45	5053	73	10900
18	1830	46	5193	74	11243
19	1936	47	5338	75	11617
20	2042	48	5486	76	12017
21	2150	49	5637	77	12445
22	2256	50	5791	78	12908
23	2364	51	5981	79	13409
24	2473	52	6109	80	13960
25	2583	53	6274	81	14565
26	2694	54	6441	82	15243
27	2806	55	6611	83	16009
28	2918	56	6790		

The *degrees* of *Latitude* being so designed in the first Meridian, let Parallel *lines* be drawn through every one of them with the *Æquator*, which shall be the *Circles* of *Latitude*. And let the Inscription of every one of the places be in the *point*, where the *Circle* of *Longitude* and *Latitude* of the place do meet.

But the *Regions* about the *Poles* less aptly, and overmuch contrary to their natural disposition are exhibited in Maps of this kind, therefore the parts between the *Poles*, and the *Polary Circles* are wont to be adjoyned to the *universal Map*, in two peculiar little *Maps* made according to the first Mode.

The use of these Maps.

The use of these *Maps* is such. 1. The *Latitude* and *Longitude* of places is found, as in the preceeding. 2. The place A, being given from whence you Sail, and the place B, to which you Sail, the *quarter* is exhibited to which the Ship is to Steer her Course. For if a Parallel be drawn through A, and the Right *line* A B, the *Angle* which these two *lines* make shall shew

shew the *quarter*. *Mariners* use another Mode. 3. They would find the distance between two given places, if the interval of those two places be taken with a *Compass*, and transferred to the divided Meridian, so that the *feet* of the *Compass* may be equally absent from the Parallel, which is in the middle between these places. But these I think to be less exact.

The sixth and seventh Mode.

Ptolomy in the latter part of his last *Chapter* of his first Book of *Geography* proposeth another Mode, and teacheth by that to represent the part of the Earth then known: In this Method the *Æquator*, and *Circles* of *Latitude* become the *Arches* of the *Circles*: the Meridians become *Elliptical Arches*. The Eye is placed to hang over the Meridian, which is the midst between the extremities of the Inhabited Earth: and in the middle place between the extream *degrees* of known *Latitude*. But by reason of the inconveniencies of describing the *Ellipsis*, and because it was devised by *Ptolomy* more to represent part of the Earth, *viz.* that which is inhabited, therefore it is not used by *Artificers*. To this that Mode is something like, which exhibiteth *Circles* of *Latitude*, by Right *lines*: but the Meridians by the *semisses* of the *Ellipsis*, such as the projecture is, if you conceive perpendicular *lines* to fall from every *point* of either *Hemisphere* on the place of the first Meridian. But the Eye must be supposed to be removed by an infinite space from the Earth, so that all the Rays from the places of the Earth being drawn to it, may be accounted for Parallels, and Perpendiculars to the *plain* of the first Meridian, as *Dialists* say, that all the Rays emitted from some *point* of the *Sun* to the Earth do so little bend, that they may be esteemed for Parallels, and do make the same appearances in *shadows*. But it is not very difficult.

See *Ptolomy* in his latter *Chap.* of his first Book of *Geography*. See Scheme.

If therefore you intend to represent in this form the *Hemisphere* of the Earth, take any *point* in the *plain* E, and from that as from a *Center* let the *Periphery* A B C D be described, let the *Quadrants* be A B, B C, C D, D A; let every one be divided into 90 *degrees*, beginning from A C, towards B and A, B A D, shall be the first Meridian, B C D the opposite, in the right *line* B D, the middle between these is the 90 from the first B A D. Let them be drawn to A C, which sheweth the *Semiperiphery* of the *Æquator*; Right *lines* Parallel through every *degree* of the *Quadrants*, or *quarters*, they shew the Parallels of the *Æquator* or the *Circles* of *Latitude*, and the *Tropicks* and *Polary Circles* shall also be found out. The parts into which E B, E D is divided, through these that are drawn, are the Meridian *degrees* B D, which are noted, 1, 2, 3, and so on. The same are taken in the *Quadrant* E A, of the *Æquator*, and the *Quadrant* E C, and the number 1, 2, 3, are ascribed, even to 180, beginning from the first *point*, or next to the Meridian B A D. So the parts A E C shew the *degrees*, into which the *Semiperiphery* of the *Æquator* is divided, through which the Poles B D, the *Semiellipsis* must be drawn for the Meridians. Because through B D, is the greater *Axis* of *Ellipsis* which are to be drawn, but the *Semisses* E B, or E D: but the *Axis* of the lesser *Semisses* is various in divers, *viz.* part of E A, intercepted between E, and the *degree* of *Longitude*, and therefore from those given it is easy by an apt Instrument, to describe these *Ellipses*, which *Instrument* is vulgar at this day, neither is it difficult to make it. Yet the *points* of every one of the *Ellipsis* may be easily found, through which they must be drawn with a free hand: but it is better to delineate them with an *Instrument*.

The *Circles* of the *Latitude*, and the Meridians being so described, all the places in this Map are to be ascribed at these *points*, in which the Meridian and *Circle* of *Latitude* do meet, and so the Map shall be finished. The *Ecliptick* shall be represented by a *streight line*, or by the *Ecliptick line*, by that Method which we have explained in Maps of the second Mode, with little labour.

Maps

These Maps very useful.

Maps of this Method are able to perform, what the *Tables* of the preceeding Modes do, besides this they have this Commodity, that they apparently shew the decrease of the *Circles* of *Latitude* in *Magnitude* towards the *Poles*.

If the *division* HG, and HK, cannot be made through the stroaks of the Lines, by reason of the great distance of the Eye D, it will be easy by calculation to find out the Parallels for every *degree*, *viz.* according to this *proportion*: As the distance of the Eye taken from the *Center* of the Earth, with the *Sinus* of the *Complement* of the *Arch* of the *Æquator* to be represented, have themselves to the *Sinus* of the same *Arch*, so is the distance of the Eye from the *Table*, to part the Line HC, or HK, which shall only represent the *Arch* of the *Æquator*.

For *Example*, let us put the Eye D, to be removed from the *Center* of the Earth E, 200 *Semidiameters* of it: but the *Table* or *Glass* HK, 100 *Semidiameters*. Therefore DE, shall be 200, and DH 100, of such as EB, or EA, EC is 1. We shall find first the *Longitude* of GHK, which ought to represent the *Semiperiphery* of the *Æquator* ABC, in this distance of the Eye or *Glass*. And it shall be thus:

As DE, is to EA, so is DH, to HS, or HK.
200 100 1 to the *Semidiamiter* of the Earth ½.

From whence it is manifest HK, or HG, ought to be of half the *Longitude* of the *Semidiamiter* of the Earth, which in truth is over vast, when we can exhibit no such Line on any Plain. Therefore for the Earth it self, we conceive a little Earth, or *Globe Terrestrial*, lesser than usual, whose *Semidiameter* if that it be of 2 *foot*, HG, or HK, shall be of 1 *foot*, *viz.* if that the Eye be put 200 *foot* remote from the *Center* of that little Earth, but the *Glass* 100. But if you desire to know how much distance the Eye ought to be removed from the very Earth, that the *Semidiameter* of the *Æquator* EA, or EC, may make the projecture HC, of given *Magnitude*; for *Example* of 1 *foot*, (the *Semidiamiter* of the *Æquator*, that is the *Semissis* of the *Axis* of the Earth containeth 19598300) that may be found by this proportion (yet supposing the distance of the *Glass* from the Eye, *viz.* HD, 10000.)

As HG, to DH, so EA, to DE.

A *Holland* mile.

1 to 100000, so 19598300 to 1959830000000 *foot*, wherefore 18000 makes an *Holland mile*, a vast distance. But in practice we take not the Earth its self, but its type, or little Earth, from which it is not necessary to suppose the Eye removed by so great an interval, but the projecture therefore is not varied.

The eighth Mode in which any given place in the Earth receiveth the Center, or middle place of the Map.

If you please to have a Map, in which the scituation of all places to our place, or to any given place, as also the distance of them from our place, may be beheld and found out, a Method is discovered, by which the Superficies of the Earth is so represented, that any given place of it may possess the middle place, or *Center* of the *Map*: and the other places may lie about it as a *Center*. Such *Maps* those *people* affect, who are delighted with a vain opinion, that their *Country* is scituated in the middle of the whole Earth, as the *Chineses*, and likewise the *Jews* in times past.

The *Chineses* and ancient *Jews*, supposed their Countrey to be in the middle of the Earth.

But to describe such a *Map*, let us take *London* to possess the *Center* of the Map: we take his *Latitude*, or the *Elevation* of the *Pole*, to be the 51 ½ *degree*, the Eye is placed in the *point* opposite to the *Vertex*, or in the *Nadir* of the place: the *Table*, or *Glass* is the Plain of the *Horizon*, or another Parallel to it; if you please to represent a larger portion than the *Hemisphere*, which is more commodious in this Method, *to wit*, that the Plain at least may pass through the depressed *Pole*.

There-

Therefore in the Plain, let the *Center* E, be taken for *London*, and the described *Periphery* ABCD, which sheweth the *Horizon*, must be divided into four *quarters*, and every one of these into 90 *degrees*; let the *Diameter* BD, be the Meridian *line*: B the *North Pole*, D the *South Diameter*. And the *line* of the rising and setting *Æquinoctial*, sheweth the *primary vertical*. A, the *Occident*, C, the *Oriental Cardo*, or sheweth the place which is distant 90 *degrees* in the *primary vertical point*. All the *vertical points* are represented in *streight lines*, drawn through the *Center* E, to every *degree* of the *Horizon*. But to shun confusion it is better to omit them, and to adjoyn a *Circumductile Rule* to the *Paxil* affixed in E.

Then let BD be divided into 180 *degrees*, as in the former Mode, by drawing Right Lines from A, to every *degree* of the *Semiperiphery* BCD. That *point* in EB, which sheweth the 52 *deg.* of the *Arch* BC, shall be the projecture of the *Arctick Pole*: Let the *point* in ED, be noted with the letter P, which represenleth the 52 *deg.* of the *Arch* DC, (by accounting from C, to D) shall be the projecture of the intersection of the *Æquator*, and the Meridian of *London*. Let the letter Q, be noted, and from that towards the letter P, let the numbers of the *degrees*, 1, 2, 3, &c. be ascribed. Also from Q, towards D, and from B, towards P, *viz.* 52, 53, 54, 55, &c.

Then the *points* being taken from P, of the equal *degrees*, *viz.* 99 and 99, also 88, and 88; let these be described about these parts as the *Diameters* of the *Peripheries* of the *Circles*, which shall represent the Parallels or *Circles* of *Latitude*, and the *Tropicks*, and *Polary Circles* with the *Æquator*.

For the describing the Meridians.

To describe the Meridians, first, let a *Periphery* be described through the *points* APC: that shall shew the Meridian, which is 90 *degrees* absent from *London*. His *Center* shall be M, in BD, (protracted into the *point* N, which sheweth the *Antarctick Pole*). Let PN, the *Diameter*, be drawn through M, Parallel to AC, which is FH; protracted from both parts in K, L. Moreover let the *Circle* PHNF, be divided into 360 *deg.* and Right *lines* from the *point* P, to every *deg.* (or only by application of the Rule) which shall cut the *line* KFHL. The *Circles* must be described through every *point* of the Section, and both the *Poles* P, N, as through three given *points* which shall represent all the Meridians: the *Centers* of the *Arches* to be described are seated in the same KL, *viz.* those which are found by the former Section, but to be taken with this condition that the most remote *Center* at L, be chosen for the nearest Meridian from BDN, towards A, and for the second, the second from this.

The *Circles* of the *Latitudes*, and the Meridians being thus described, it is easy to inscribe the places of the Earth on a Map, and the scituation of them all to *London*, will be conspicuous. Moreover to affix the Rule to the place of *London*, the same parts should be brought in, into which EB, was divided, and the number of *degrees* must be ascribed; so the Rule being brought round unto every place, we shall presently know, both how great an interval they lie from *Amsterdam*, and in what *quarter* they lie in respect of it. Now how by the benefit of the Globe such a Map should be made, we shall shew in the Fourth Mode of particular Maps.

The first Mode of Geographical particular Maps.

Of particular or special Maps, as of *Asia*, *Africa*, *Europe*, *America*.

We have spoken of the making of *general* or *universal* Maps; now it is required that we should teach the composition of *particular* or *special* Maps. The parts therefore of the Earth, which we would represent on the Map, are either great or small. If great, as *Asia*, *Africa*, *Europe*, *America*; it will be necessary to institute a Declination according to the Modes explained for *General* Maps; but in divers places sundry ways are more commodious. *Africa*, and *America*, because the *Æquator* passeth through them, are not commodiously exhibited by the first Mode, but most aptly by the second, the Eye being placed in the Plain of the *Æquator* above the middle Meridian, between the extreams which shut up *Africa*, or *America*. Therefore in these Maps the *Æqua-*

Æquator is a right *line*, but the Parallels and the Meridians are the *Arches* of the Circles. But to represent *Asia*, and *Europe*, the first and sixth Mode are more commodious, but for the *Polary Lands*, or *Frigid Zones*, we have said that the first Mode is most apt in the explication of the same.

First, therefore a *streight line* must be drawn upon the Plain for the Meridian of the place, unto which we would have the Eye hang over, and that must be divided into *degrees*, according to the Method explained in the preceeding Modes, and which shall be *degrees* of *Latitude*, the number of which must be ascribed. Then from the *Table* must be extracted the *Latitude* of both Parallels, *viz.* that which terminateth the Region from both sides which representeth the Poles. The *degrees* of the *Latitude* of these must be noted in the right *line*, or the Meridian of the Eye, and through those *points streight* perpendicular *lines* must be drawn, which inclose the Map towards the *Northern* and *Southern quarter*. Then Parallels and Meridians must be drawn at every *degree*: and the places inscribed until the Map be perfected.

The second Mode of describing particular Maps.

The second Mode of particular Maps.

Artificers are wont to use another Method in Regions not so large, but only moderate or small. First, a tranverse *line* is drawn in the extremity of the *Table*, for the Circle of *Latitude*, in which the ends of the Regions respecting the *Æquator*, are to be drawn; in that so many parts are taken equally, through how many *deg.* of *Longitude* that Region is extended from that part. Then from the middle of this *line*, a perpendicular is drawn, which hath so many parts as there are *deg.* of *Longitude* between the bounds of that Region towards the *Æquator*, and the Pole. But how great these parts should be, is known from the proportion of the *deg.* of the first Circle, which is greatest to the *deg.* of Parallel, which is represented from the lower transverse *line*; Through the term of this perpendicular, another perpendicular, or Parallel to the inferiour *line*, is drawn, in which so many *deg.* of *Longitude* must be taken as are in the lower *line*, and equal to them of the lower *line*; if these *Latitudes* be not much distant from the *Æquator*, or mutual from themselves. But if the distance from the *Æquator* be great; or if the excess of the ultimate *Latitude* of the Region be great above that which is more near the *Æquator*, the parts to be taken in the transverse *line*, shall not be equal to the parts of the inferiour *line*, but they ought to be lesser according to proportion, which the *degrees* of this more remote Parallel hath to the *degrees* of the inferiour *line*, which proportion is known from the *Table* we have placed in the Fourth *Chapter*.

See Chap. IV.

After the parts are thus taken for the *deg.* of *Longitude* in the superiour and inferiour *line*, the right *lines* are to be drawn through the beginning and end of the parts of the same number: which right *lines* shall represent the Meridian *lines*. Then through every *deg.* of its perpendicular, which we have ordered to be erected from the middle *point* of the inferiour *line*, *lines* Parallel to that lower *line* must be drawn through the beginnings of every *degree* which shall shew the Parallels of *Latitude*. In the last place, places must be inscribed at the *points*, in which the Parallels of every place, and the Meridian of *Latitude* do meet. So a *Geographical* Map for a given Region shall be compleated.

The third Mode of describing particular Maps.

The third Mode of particular Maps, as *Provinces*, &c.

In representing the *Provinces* of a small tract, we use another Method, which we have explained before, *viz.* that the Maps may more accurately exhibit the situation of one place to another, and the distance of places. The Method consisteth in this, that we may find the *Angles* of the position of one place to another by *Mathematical Instruments*, and then aptly transfer into the *Chart*. For *Example* sake, let there be Five places of any Region to be disposed in the *Table* according to its situation and distance; we shall call those Five

Five places A, B, C, D, E. First, we shall chose from these that A, from which the rest or most of them may conveniently be beheld; and an *Instrument* being applyed, we shall observe the *Angles* of *position* at every place, *viz.* the *Angles* between the Meridian *line* of the place in which we observe, and between the *quarters* of the other places B, C, D, E. Moreover in the *Chart* in which we will represent those places, we may take the letter A, and cut the *Periphery* described from thence into *degrees*, (which is not necessary if we have a Semicircle divided, or some other *Geometrical Instrument* fit for that purpose;) we shall assume one *Diameter* for the Meridian *line* of the place A, *viz.* F A G: the other perpendicular to this H A K, will shew the *Æquinoctial rising* in the extremity H, the setting K. F is the *Northern Cardo*, C, the *Southern*. Let the *Angle* of the position of the place B, to A, be observed of 30 *deg.* from the *South*, towards the *East*, we shall number in the *Quadrant* G H, so many *degrees*, and shall draw the *line* from A, through that *degree*. This shall represent the place B, from the place A. After the same Mode the *quarters* of the other place D E, must be noted on the *Chart*, if they be observed. Then another place is to be chosen from B, C, D, E, whose distance from A, is known, or found out; for *Example*, the place B; and in that the *Instruments*, being applyed, the *quarters* observed of the three other places C, D, E. This being done, we put in our *Table* the Scale of *miles*, or *Leagues*, which we take either greater or lesser, as we desire to have either a greater or lesser Map, and in the Line of the *quarter* of the place B, we take from A, the noted distance, and there we mark the place B, and through B we shall draw the Line Parallel to F G, which shall represent the Meridian of the place B, and in the *Periphery* described about B, as about A, we shall draw Lines from B, which will denote the *quarters* of the places C, D, E, and where these Lines cut them which are drawn from A, the *points* of the Intersection shall be the places of the C, D, E, and we must do after the same Mode if that there shall be many places.

The fourth Mode which applyeth the Globe.

The fourth Mode by the help of the *Terrestrial* Globe.

We may by the help of the *Terrestrial Globe*, exhibit on a *plain* the situation and distance of places remote from one to another, and of divers *Kingdoms*; yea the whole Superficies of the Earth: so that any place given may seem to occupy the middle, as we have shewed in the sixth Mode: so that this Mode may be reckoned to the Modes for *General* Maps: but it is better not to extend the Mode beyond the *Hemisphere*. For distance I determine (to set down before your Eyes on a *Chart*, the situation of all the places to *London*, and their distance from this place. First in the *Chart* let the middle *point* be taken for *London*, let the letter A, be noted, from that let the *Periphery* F H G K, be described. Let F G, be the Meridian Line, or the Line of the *North*, and *South*: let H K, be the Line of the *East*, and *West*. F, may shew the *North*, G, the *South*, H, the *East*, and K, the *West*. Let every one of the *Quadrants* be divided into 90 *degrees*.

Then in the Globe let *London* be brought to the *Brazen Meridian*, and let the *Pole* be Elevated according to the Latitude of *London*, let the *Quadrant* be fitted to the *Vertex*, and applyed to every place, whose situation we would represent to *London* on the *Chart*. For *Example*, the beginning, middle, and end of *France*, so to the bounds of *Italy*, *Spain*, *Hungary*, *Sweden*, and the like; and let the *Angles* be noted which the *Quadrant* maketh with the Meridian in every application, that is the *Angles* of the Position of those places to *London*: moreover the *degrees* of the *Quadrant* between *London* and every place, that is the distance of every one of them. This done, lay aside the Globe, and on the *Chart*, let the Lines be drawn from A, for the *quarters* of every one of the places, *viz.* which may make such *Angles* with the Meridian Line, as are noted before, and that between the Cardinal noted *points*. (How we may supercede this labour of drawing of Lines, we shall shew anon) In these Lines of the *quarters* the *points* must be found out for the places, by taking the distances from *London*,

which we may do by a double Method. For the places are either removed a little interval, which we will note, or by a large interval, but ſo it is beſt to make a ſmall Map; or the places are removed a great interval, and ſo you muſt form a Map of a greater bulk. In the two Caſes it is ſufficient to make a Scale of *degrees*, by dividing ſome Line into equal parts, every one of which may repreſent a *degree*. From this Scale we take the diſtances of every place before noted, with the interval of the *Compaſs*, and bring them into the Line of the quarter of every place. The *term* ſhall be noted with the *appellation* of the place. And ſo we ſhall note all the places in the *Table* about *London*.

A Scale of equal parts for Degrees not ſufficient for larger Maps, with remote Regions.

But if you muſt make a Map of a larger form, and the remote Regions muſt be noted, it is not ſufficient to take a Scale of equal parts for *degrees*, but the Line muſt be divided by another Mode, *viz.* according to the Rules of *Perſpective*; becauſe in this Mode we place the Eye beneath the *Horizon* of *London*, in the place of the *Antipodes*, and take the *Horizon* for the *Glaſs*. If we are minded to repreſent an *Hemiſphere*, or a part greater, leſſer than the *Hemiſphere*, then we take a Plain Parallel to the *Horizon*, which may be diſtant from it by ſo great an *Arch*, as is the part to be repreſented by the *Hemiſphere*. Therefore let the *Periphery* of the *Circle* be deſcribed in another *Chart*, M, the *Center*, N O, one *Diameter*, P Q, another perpendicular. Let the *Quadrant* P Q, be divided into 90 *degrees*, and let ſo many *degrees* be taken beneath Q, as much as the part beyond the *Hemiſphere* is to be repreſented, and through the term R, let it be drawn to Q M, Parallel at M O, *to wit*, R S.

Moreover from Q, let right Lines be drawn to every *degree* of the *Quadrant* N Q, or N Q R, (if a greater portion than the *Hemiſphere* be to be exhibited) which divide the right Line M Q, or S R, into ſuch parts, which in projecture ſhall ſhew the *degrees*. Then let a Line be taken, how much we will have to be the diſtance of the moſt remote place from *London* in the *Table*, that is how much we will have to be half the *Table*. That Line ſhall be divided as M Q, or S K, was divided: and the parts ſhall be noted with numbers, 1, 2, 3, 4, 5, 6, &c. for *degrees*. The diſtances taken from this Scale for every place from *London*, if they be brought into the Lines of the *Quarters*, ſhall exhibit the *points* for the places, and the Map ſhall be made which we deſired.

In the practice we may ſuperſede from the pains of the Lines to be drawn from the *Quarters*, for it will be commodious to deſign a Scale of *degrees* in the *Rule*, whoſe beginning if it be applyed to *London*, and the *Rule* be brought round to the *degrees* of the *Periphery* for the *Quarters* of every place, the *point* may preſently be noted for any place, accounting the diſtance on the *Rule* from the beginning of the Scale. The practice will ſhew this Method eaſy.

The fifth Mode, concerning Sea Maps, or Charts.

The fifth Mode treating of Sea Maps, or *Charts*.

Sea Maps, or *Charts*, are of right *lines*, and have all their *Meridians* Parallel, otherwiſe than the ſecond Mode hath in the laſt member. They are twofold, as we have ſaid, that Univerſals are twofold in the fourth and fifth Mode of *univerſals*, *viz.* of equal *degrees* of *Latitude*, or *unequal degrees*. The conſtruction is the ſame with that of the *univerſals*, the difference is only that they repreſent part, and admit of divers *Nautick* or *Sea Compaſſes*. Of their uſe we ſhall ſpeak in the *Art* of *Navigation*. *Charts* become of equal *degrees*, if that part of the Earth a little varying in *Latitude*, be to be repreſented: ſuch are the *Charts* for the *Navigation* of the *Mediterranean*: they are made of unequal *degrees*, if that the *Latitude* be great.

CHAP.

CHAP. XXXIII.

Of the diſtance of Places.

Propoſition I.

Two Points, or Places being given on the Globe, to draw a line or Arch from one to the other, which may be part of the greateſt Periphery of the Globe, or to deſcribe on the Superficies a Periphery of the greateſt Circle, which may paſs through the two given Points.

Concerning the diſtances of places.

LEt us conceive two Right Lines drawn from one *point* to the other, and from both to the *Center* of the Globe, or Earth, which three Lines ſhall make a *Triangle*, and therefore they are on one Plain. This Plain protended may cut the Superficies of the Globe: the Section ſhall be the *Periphery* of the greater *Circle*, and the *Arch* intercepted between both places ſhall be that ſought for. Or let the interval of the *Quadrant* of the greateſt *Periphery* be taken with the *Compaſſes*, and one *foot* being fixed on one of the given places, let the *Arch* be deſcribed on the Superficies of the Globe: then the other *Arch*, the *foot* being fixed on the other given *point*, the *Cannon Section* of theſe two *Arches*, ſhall be the Pole of the *Periphery* to be deſcribed, or in which if one *foot* of the *Compaſs* be deſigned, and the *Periphery* deſcribed on the Superficies of the Globe, we ſhall have the *Arch* demanded intercepted between the two given places.

Propoſition II.

The diſtance of two places on the Superficies of the Earth is very ſhort, or the ſhorteſt way from one place to the other is only one (except the places of the Antipodes) viz. *the Arch of the greateſt Periphery, which is intercepted between thoſe two places.*

The ſhorteſt diſtance of two places, is a Right Line drawn from one *point* to the other, as is manifeſt from the definition of *Archimedes*, and it is eaſy to deduct from other definitions. Alſo the ſhorteſt diſtance of two places exiſting in the Superficies of the Earth is a Right line, which is conceived to be drawn from one place to the other; but ſeeing that the Superficies of the Earth is a crooked *Convex*, thence it cometh to paſs, that the Right Line which is truly the ſhorteſt diſtance of the two places, may fall between the Cavity of this Superficies. But we conſider only thoſe ways from one place to another, which are on the very Superficies of the Earth, and therefore Crooked Lines: wherefore we add in the *Propoſition* the ſhorteſt diſtance on the Superficies of the Earth. Between theſe ways, or intercepted Lines, there is one which is ſhorteſt of all, *viz.* the *Arch* of the greateſt *Periphery*, intercepted between any two *points* ſo drawn, as we have ſaid in the preceeding *Propoſition*. That therefore this *Arch*, or Crooked intercepted Line is ſhorter than all the other Crooked *Circular* intercepted Lines (of which there are infinite) is manifeſt from this *Geometrical Theorem*: if the *Arches* of two unequal *Peripheries* be taken, whoſe ſubtended Line is equal, or the ſame, the *Arch* of the greater *Periphery* ſhall be leſſer than the *Arch* of the leſſer *Periphery* of the Earth, except that *Arch* which is ſuppoſed to be of the greateſt *Periphery*. But that this *Arch* is alſo leſſer than the other Crooked not *Circular* ſolid Lines, (as the *Helices*) ſuch as may be infinitely ſuppoſed on the Superficies of the Earth intercepted between two places is ſhewed from others: for this *Theorem* doth not belong to *Geography* but to *Geometry*,

The ſhorteſt diſtance of two places, is a Right Line drawn from one Point to the other.

which alſo ſheweth only that one *Arch* of the greateſt *Periphery* may be drawn from one place to another, not many.

Propoſition III.

The diſtances of places are not changed.

Itinerary diſtances of places may be greater or leſſer.

The Itinerary diſtance of places may ſometimes be greater, and ſometimes leſſer: but the true and ſhorteſt *Geographical* diſtance remaineth the ſame, except you conceive the Superficies of the Earth to be rent or torn. But here we underſtand places to be the *points* of the Earth which are immovable, and therefore the Superficies intercepted between two places become higher, the diſtance of the places ſhall alſo be made greater; if more depreſſed, leſſer.

Propoſition IV.

No Maps of the Earth are diſtant a greater interval, than 2700 German *miles, whereof* 15 *are ſaid to be a degree.*

Fifteen *German* makes a *degree.*

Therefore becauſe the Superficies of the Earth is *Spherical*, the ſhorteſt *Arch* cannot fall between two *points* of it, which is greater than 180 *deg.* that is, than the *Semiperiphery* of the greateſt Circle. And 180 *deg.* makes 2700 *German* miles; wherefore no places are diſtant more than 2700 *German* miles. But the condition of an Itinerary diſtance is otherwiſe.

Propoſition V.

The diſtance of the Antipodes *is* 2700 German *miles, or* 180 *degrees.*

The diſtance of the *Antipodes.*

The ſhorteſt diſtance amongſt the *Antipodes* is not one, but infinite, and thoſe all equal, although to ſpeak properly, they cannot be called the ſhorteſt diſtances, but thoſe than which none are ſhorter.

The Circular diſtances amongſt the *Antipodes* are all greater *Peripheries*, no leſſer, of which between other places there are infinite, which are not oppoſed to the *Diameter*.

A *Periphery* paſſing through two places, alſo paſſeth through the *Antipodes* of theſe places.

The diſtance of any places of the two which belong to the *Antipodes* taken together, make 180 *degrees*. Therefore the diſtance of one place being known from the other, the diſtance alſo of that place ſhall be known from the place of the other of the *Antipodes*.

Theſe Five *Propoſitions* are of ſo manifeſt a truth, that any one weighing of them may eaſily diſcern, and underſtand them.

Propoſition. VI.

Any place being given on the Superficies of the Globe, *to exhibit all thoſe places which may have one and the ſame diſtance from that given place: but the given diſtance muſt not be greater than* 2700 German *miles.*

Let the given place be brought to the *Brazen* Meridian; let the Pole be Elevated according to to the *Latitude* of the place, let the *Quadrant* be affixed to the *Vertical point*. Moreover let the given diſtance be turned into *degrees*, which *degrees* muſt be numbred on the *Quadrant* from the *Vertical point*. Let the term of the Numeration be noted with Chalk: then let the *Quadrant* be brought round on the Superficies of the Globe: the noted *point* will ſhew all the places of the Earth, which have the given diſtance from the given place.

Or

Or let the *deg.* of the changed diſtance be taken on the *Æquator* by the interval of the *Compaſs*, and one Foot fixed on the given place, let the other be brought round. The places through which it paſſeth, are thoſe demanded.

But if the *deg.* ariſing from the changed diſtance are more than 90, that is than a *Quadrant*, let their *Complement* be taken at 180: and let the place of the *Antipodes* be brought to the Superiour Semicircle of the *Brazen* Meridian, let the Pole be Elevated for its *Latitude*, and the *Quadrant* affixed to the *Vertical point*, and let the *deg.* of the *Complement* be accounted on it, and let the term of the Numeration be noted with Chalk. If then the *Quadrant* be turned about, all the places demanded, which have the given diſtance from the given place, ſhall have the noted *point*. But if you will do the buſineſs with the *Compaſs*, uſe the Method of the *Chorographical* Maps.

Propoſition VII.

Of the Cauſe why the Itinerary diſtance is greater than the true, or ſhort and Geographical.

The reaſons why the Itinerary diſtance is greater than the true, ſhort, and *Geographical.*

1. The unpaſſable Woods which lie between ſome places. 2. High Mountains, and low Valleys. 3. Mariſhes and Water in general, if you mean *Land-Voyages*. 4. In *Sea Voyages* the procurrent Lands and Iſlands hinder the direct *Voyage*. 5. Peculiar Fluxes of the *Sea*. And 6. The Winds.

But ſome may demand whether it be not poſſible that there may be places whoſe Itinerary diſtance is leſſer, than the moſt ſhort *Geographical*? To this I anſwer, although to Senſe the Figure of the Earth be *Spherical*, yet I have ſhewed in the firſt Book, that this Figure is not altogether *Geometrical*, but is rendred unequal by many places Elevated and depreſſed. Therefore if we conceive a certain Superficies of the Earth, or the diſtance of the Superficies from the Center, for *Example*, the vulgar Semidiamiter of 860 miles, in reſpect of which places are to be taken Elevated, or depreſſed, this being ſuppoſed, I ſay, there may be two places ſo ſcituated, that the Itinerary diſtance may be leſſer than the ſhorter *Geographical*, which is removed 860 miles from the *Center*, but the intermedial place muſt be more depreſſed.

Propoſition VIII.

To find out the diſtance of two places given on the Globe, as alſo in Geographical Maps.

The finding out the diſtance of two places given on the Globe.

Let one of the given places be brought to the *Brazen* Meridian, let the *Quadrant* be affixed to the *Vertex*, and let it be applyed to the other given place: then let the *degrees* intercepted between the *Vertex* and this place be numbred: let theſe *degrees* be turned into miles, or another meaſure in which we would know the diſtance of thoſe places; this ſhall be that demanded.

Or let the interval of two places be taken with the *Compaſſes*, and this being tranſlated to the *Æquator*, let it be conſidered how many *degrees* it poſſeſſeth in this, for theſe are the diſtances of the places, which we muſt convert into miles, or ſome other meaſure.

But if that the diſtance be greater, than can be taken by the *Quadrant*, or *Compaſſes*, (*viz.* more than 90 *degrees*) the diſtance of one place from the *Antipodes* of the other, ſhall be leſſer than 90 *degrees*. Let this be enquired after and taken from 180 *degrees*, the remaining *degrees* ſhall be the diſtance required.

In Univerſal Maps, as alſo in Particular of great parts, the diſtance of places cannot be exactly found: but in Particular *Chorographical* Maps, a Scale of *Leagues* or *miles* is uſually added, by the aſſiſtance of which the diſtance of places contained in thoſe Maps is known. For ſo if you take the interval of

two

two places, and transfer this into the Scale, you shall presently know the distance of those places.

But if the Map be of any greater *proportion*, this Method is defective, for no Map can be made by any Method, which exhibiteth the true distance of places: but such an one may be made, which may shew the distance of one place from all the rest, as we have said in our Method of making Maps.

Proposition IX.

The Latitude and Longitude of two places being given, to find their distance.

The Latitude and Longitude of two places being given, to find their distance.

The solution of this *Problem* is easy by the Globe and *Catholick Planisphere*; it is difficult by *Calculation*, and *Trigonometrical Supputation*.

It is performed on the Globe after this Mode: let any Meridian be taken, and let the difference of the *Longitude* of places be numbred from it in the *Æquator*; let the term of the Numeration be brought under the *Brazen* Meridian, and let the *Latitude* of the other place be reckoned on this; let the *point* of the Globe, which is under the term of the Numeration be noted with Chalk: also in the first Meridian, let the *point* of *Latitude* be noted for the other place. Then let the interval be taken between the noted *points* with the *Compasses*, and let it be transferred either into the *Æquator*, or first Meridian: so we shall know the distance of places in *degrees*, and parts of *degrees*: which *degrees* must be turned into *miles*, or other measure which we would have; but if the interval be greater than can be conveniently taken with *Compasses*, we must do as in the VII *Proposition*. But because the *Planisphere* is more apt for use, especially by *Seamen*, and many love to solve *Problems* by it, and the use of this *Problem* is frequent, I shall also propound this Method by the *Planisphere*.

See Proposition 7.

There are two Cases of this *Problem*, for either the given *Longitude* of the places is one and the same, or the difference of 180, *to wit*, if they lie in the same Meridian, or the *Longitude* is diverse. If it be the same, there is no need of another Method, but that *difference* of *Latitude* may be turned into *miles*; *viz.* that every *Latitude* is the distance of places in *degrees*: but if the *Latitudes* be of divers *species*, *to wit*, one *North*, the other *South*, the *degrees* of *Latitudes* shall be added: if the difference be of 180 *degrees*, *viz.* if in divers Semicircles of the same *Circle* of *Longitude*, we must do after the same Mode, which is easy for any one to collect. But it is otherwise, if that the *Longitude* of the places be unequal, that is, if the places shall be scituated in divers Meridians, and without the *Æquator*.

Cases which vary the solution of this *Problem*.

But it will be useful for the distinct understanding of the *Problem* to reckon the Cases which vary the solution, and most of them have a most easy solution, as will be manifest by Examples, which the Studious ought to examine.

1. If the *Longitude* of the places be the same, and they be the same cognominated *Latitude*, in this Case the difference of *Latitude* is the very distance in *degrees*, which may be changed into *miles*, or other *measure*.

2. If the *Longitude* of places be the same, but the *Latitudes* be of a divers name, one *Northern*, the other *Southern*; in this Case, the *Latitudes* shall be added in one sum, this shall shew the distance in *degrees*.

3. If the difference of *Longitudes* be of 180 *degrees*, and be of a like cognominated *Latitude*, the *Complements* of the *Latitudes* shall be taken at 90 *degrees*, or the distance of the places from the Poles, and they shall be added: the same will shew the distance in *degrees*.

4. If the difference of *Longitudes* be of 180 *degrees*, and the *Latitudes* be of a diverse name, let the difference of *Latitudes* be taken, and substracted from 180 *degrees*, or the Semicircle. The remaining number shall exhibit the distance in *degrees*.

5. If

5. If both places shall be in the *Æquator*, the difference of *Longitude* is the very distance.

6. If the *Latitude* of places shall be one and the same, and not greater than 20 *degrees*, and the difference of *Longitude* small, we must enter with that *Latitude*, the *Table* of *Magnitude* laid down in the IV. *Chapter*, and we must except the quantity of one *degree*. Then we shall take the difference of *Longitude*, and turn these *deg.* into the excepted Miles, or Measures.

7. But if the *Longitude* and *Latitude* be divers, or if the *Latitude* be the same, but yet greater than 20 *degrees*, and the difference of *Longitude* be some what greater, which is usual in many *Examples*; in this case we must not use the same *compendiums*, but the solution is more difficult, and in this case the *Problem* is chiefly propounded. We have shewed the solution by the Globe; the Method by the *Planisphere* is this: let the Rule of the *Planisphere* be brought to the *Latitude* of one place, or to the *degree* of the Elevation of the Pole: then let the difference of *Longitudes* be numbred in the Meridians, beginning from the other part, and wherein the *point* may be observed, where this Meridian terminating the Numeration, cutteth the Parallel of the other place of *Latitude*. Let the end of the *Index* be placed above this *point*. This done, let the Rule be applyed to the Line of the *Æquator*. The number of the Parallels intercepted between the Pole and the *Index*, is the sought for distance in the *degrees*.

The solution of the Problem.

Thus the *Problem* is solved by the *Planisphere*. There is another Method found out by *Maurolicus*, which by the stroaks of the Lines on the *Circle*, teacheth by a pleasant operation to exhibit the distance, from which lineary description also is deduced a Mode, in which the *Problem* is solved by *Calculation*. Let a certain *Periphery* of the *Circle* be described in the *Center* E: one *Semidiamiter* B E: let the *Arch* B A, be taken equal to the difference of the *Longitudes* of the places (if the difference taken be greater than 180 *deg.* the *Complement* of this difference is at 360 *degrees*) and let the *Semidiameter* A E be drawn. Then let the *Arch* A F, (towards B) be taken equal to the *Latitude* of the place A, and from B, the *Arch* B C, equal to the *Latitude* of the place B: let G I, be let down perpendicular from G, on B E, and F H, from F, on A E. Let I H, be drawn, and above this the *points* I, and H, must be erected perpendicular, I L, equal to I G, and H K equal to H F (on the same quarter if the *Latitudes* of the places shall be Cognominal; but if they be of a divers Name, then I L, shall be drawn from one quarter to the right Line I H, and H K, from the other). This done, the right Line L K, shall be stretched to the demanded distance, or the *Arch* of it shall be subtended, which shall shew the distance of *degrees*. Therefore by the interval of the *Compass* K L, let the *Arch* B X, be taken: this shall represent the distance in *degrees*.

This Mode of *Maurolicus* is taken from the solution of *Spherical Triangles*, neither will this lineary Method exhibit an accurate distance, although the practice be pleasant and easy: but only the Method by Numbers, or the *Trigonometry* of *Spherical Triangles*, exhibiteth an accurate distance. For let there be had a *Spherical Triangle*, in which two sides are given, *viz.* the distances of the places from the Poles (the *Complements* of *Latitude*) and the *Angle* contained whose measure is the difference of *Longitude*, the third side is demanded. For the finding of which although there are many Methods, yet the most general is this: First, if that the *Latitudes* of places be Cognominal, let it be brought to pass, that as the *Quadrant* of the whole *Sinus* is to the right *Angle*, contained under the *Sinus* of the distance of the places from the Pole, so is it towards the *Sinus* of the difference of the *Longitudes* (if it be greater than 180 *degrees*, let his *Complement* be taken at 360 *degrees*) to a certain fourth number. Then let the difference of *Latitudes* be taken, and the *Sinus* of this *Complement*. Moreover let the fourth number found out before be compared with this *Sinus*: if it becometh equal, the distance of the places shall be 90 *degrees*. If it be lesser let it be substracted, and the residue shall be the *Sinus* of the *Arch*, whose *Complement* is the distance of the places. If the fourth be found greater than the said *Sinus*, let this be substracted from that, and the residue

due shall be the *Sinus* of the *Arch*, which being added to 90 *degrees*, will exhibit the distance sought in *degrees*, which must be converted into an Itinerary distance.

2. If the Latitudes be of a divers name, *viz.* one *Northern*, the other *Southern*, let the place of the *Antipodes* be taken for either place of it, and the distance of it may be found from the other place according to the said Method. For the Latitude of this shall be the same with that of that place, but of the same name with the other place: therefore in a *Spherical Triangle* there shall be two given *sides*, and the *Angle* is the *Complement* of the difference of the Longitude of the places at 180 *degrees* (or an excess above 180; if this difference shall be greater than 180) therefore the distance between one place, and the *Antipodes* of the other place being found, you have also the distance of those places. For this is the *Complement* of the former to 180 *degrees*, as hath been said in the former *Proposition*.

In places near, and not much distant from the *Æquator* (*viz.* not beyond 18 *degrees*) we use a more easy, though not an Apodictical Method, which shall exhibit a distance not much diverse from the true, *viz.* we take the *Quadrant* of the difference of Longitude, and also of Latitude, we add the *Quadrants*, and from the Aggregate extract the *Quadrate Root*, this will shew the difference not much different from the true.

Or thus, act in a more certain Method, which may also be applyed to places beyond the 20 *degree* of Latitude: from the *Table* of the Quantity of the Parallels, except the proportion of the greater Parrallel of Latitude to the *Æquator*: and as the quantity of the *Æquator* is to the quantity of the Parallel, so is the difference of Longitude to the other, or to the difference of Longitude taken in the Parallel of a greater Latitude. Let this quantity be assumed for the difference of Latitude, and do as before.

Tables of *Logarithms* useful for the solution of this Problem.

The solution of this *Problem* is easy, if we apply *Tables* of *Logarithms*, and resolve a *Triangle*, *Oblique Angle*, into two right *Angles*. So there will be need of no *Multiplication*, or *Division*.

Proposition X.

The Latitude of two places being given, and the Quarter in which one is scituated from the other, to find the distance.

This *Problem* is the same with the *Trigonometrical* abstract: two sides being given in a *Spherical Triangle*, and an *Angle*, which is opposite to one given side, to find a third side. For the two given sides are in this *Geographical Problem*, the distances of these two places from the Pole, and the *Angles* opposite to either side is the *Angle* of *position*, or the *Angle* of one quarter of the place to the other, or the *Complement* of this *Angle* at 180 *degrees*.

The Solution of this *Problem* is thus performed by the Globe. Let the first Meridian be taken for the Meridian of the place, whose quarter is not given at the other: and in this Meridian let the *point* of Latitude be noted for this place. Then let the Pole be Elevated for the Latitude of the other place, and the *Quadrant* affixed to the *Vertex*, but let the other end be applyed to the quarter or *degree* of the Horizon, for the given quarter.

Then let the Globe be turned round, until the *point* noted in the first Meridian come to the *Quadrant*. So the *Arch* of the *Quadrant* intercepted between the *Vertex* and that *point*, is the demanded distance of the two places: you shall also have the difference of Longitude in the *Æquator*, *viz.* the *Arch* of the *Æquator* intercepted between the *Brazen*, and first Meridian.

Pro-

Proposition XI.

The Longitude of two places being given, the Latitude of one place, and the quarter in which this other place lyeth at this, to find out the distance.

Here we have again a *Spherical Triangle*, whose sides are the distances of the places from the Pole, and the mutual distance of the places themselves, in which one side is given, *viz.* the distance of one place from the Pole, and two *Angles* are given, one, whose *measure*, is the difference of *Longitude*, the other is known from the given quarter of the other place. From these three given the side is demanded, which is opposite to the *Angle* of the difference of *Longitude*, the solution may easily be performed by the Globe, and by the *Planisphere*; and very exactly by a *Logarithmical Calculation*, as also by the common computation. We will only shew the Method which the Globe affordeth, although it be more easy by the *Planisphere*, but that which is done by the Globe represenceth the *Triangle*.

The Method which the Globe affordeth herein.

Let the first Meridian be taken for the Meridian of the place, whose *Latitude* is not given: and let the *degrees* of the difference of the *Longitude* of the places be accounted in the *Æquator*. Let the term be noted with Chalk, and brought to the *Brazen* Meridian: so this shall represent the Meridian of the other place: let the *degrees* of the given *Latitude* be reckoned on it, and the Globe remaining fixed let the Pole be Elevated for that *Latitude*: Let the *Quadrant* be affixed to the *Vertex*, and the other end to the given *quarter* of the *Horizon*. In this scituation of the Globe the *point* in which the *Quadrant* cutteth the first Meridian, shall represent that other place, and the *Arch* of the *Quadrant*, which is intercepted between the *Vertex*, and the *point* is the distance demanded. Also by the same Method, the *Latitude* of this other place is had.

Proposition XII.

The distance of two places scituated in the same Meridian, or of the same Longitude, being given in the quarters in which that third place lyeth from those two, to find the distance of this third place from both of them.

Here again we have a *Spherical Triangle*, whose three sides are the distance between those three places. And one place is given, *viz.* the distance of two places (which must be turned into *degrees*, except it be so given) and the two adjacent *Angles* are given, the two other sides are sought.

Leaving the Methods which perform it by Calculation, and the *Planisphere*, although they be more accurate, we shall only deliver that which solveth it by the Globe, and placeth it more before the Eyes.

Let the *degrees* of two places distant be taken on the *Brazen* Meridian where you please, and let the terms be noted: so that these may represent the places whose distance is given. Then let the Pole be Elevated for the *Latitude* of one of these terms, let the *Quadrant* be affixed to the *Vertex*, and applied to the given *quarter*, in which the other place is scituated at the place which is represented from that bound, and let the extension of the *Quadrant* be noted with Chalk on the Globe. Then let the Pole be Elevated for the *Latitude* of the other bound, and the *Quadrant* be affixed to that term, the other extremity to the other given *quarter*. The *point* in which the *Quadrant* shall cut the *Arch* marked with Chalk, shall represent the third place, whence it is easy to take the distance from these two terms.

CHAP. XXXIV.

Of the Visible, or Sensible Horizon.

A *Sensible Horizon*, is a *Periphery* on the Superficies of the Earth which boundeth the prospect of the Eye moved round about, or which terminateth part of the Superficies which the Eye moved about may see, or from whence the Rays may come to the Eye. His *Semidiameter* is termed the greatest *Arch* of the Earth intercepted between the Foot of the Spectator, and that *Periphery*, which therefore is perpendicular over it.

Proposition I.

The extension or Semidiameter of the sensible Horizon variously existeth both according to the divers Altitude of the Eye, as also from the diversity of the taken Semidiameter of the Earth.

A sensible Horizon what.

Let the greatest *Circle* of the Earth be MPNQ. Let T be the *Center*, T P the *Semidiameter*, PO the *Altitude* of the Eye: let O be the Eye. Let the *Tangents* ON, OM be drawn from O: and let us conceive the Ray NO to be as it were carried about on the Superficies of the Earth; and so to describe the *Periphery*: this shall be the sensible Horizon: his *Semidiameter* PN, PM; for the Rays NO, MO are the last, which from O can come to the Eye from the Superficies of the Earth, which we here suppose to be perfectly round.

And it is manifest, if we take the lesser, or greater *Altitude* than PO, that also the *Arch* PN shall be greater or lesser. After the same Mode if FP be made to be of more, or fewer *miles*, PN shall also be of more or fewer *miles*.

The opinions of the Antients concerning this Horizon.

These seem to be the Causes, that the Ancient *Authours* have followed divers opinions concerning this Horizon, or Extension of sight. For *Macrobius* assigneth to it the *Semidiameter* PN of 180 *stadia's*, that is 22½ *miles*. *Eratosthenes* 350 *stadia's*, which makes 44 *miles*. *Albertus Magnus* 1000, which makes 125 *miles*. *Proclus* 2000 *stadia's*, that is 250 *miles*. Many assign 500 *stadia's*, that is 62½ *mile*. Yet I suppose the Causes of the diversity of these assignations, not only to be those of which I have spoken, but the divers assumed distance of the *stadia*, as shall be manifest from the following *Proposition*.

Proposition II.

The stature of a Man being given from the Foot to the Eye, and the Semidiameter of the Earth being given, to find out the Semidiameter of the sensible Horizon.

Let PO be the stature of a Man: O the Eye. TP is the *Semidiameter*. ON is the Rays touching the Superficies of the Earth, terminating the sensible Horizon, or the *Aspect*: therefore PN is the *Semidiameter*; the *Longitude* of this is demanded. Let PO be added, for *Example*, of Five Foot to TP the *Semediameter* 19598300: so you shall have TO, and in the *Triangle* NTO besides TO and TN, we know the *Angle* TNO to be right, or 90 *degrees*. Therefore NTO is found according to this proportion.

As

As TO is to TN, so is the whole *sinus* to the *sinus* of the *Angle* NOT, whose *Complement* at 90 *degrees* is the *Angle* NTO, or the *Arch* NP, which may be turned into *miles*.

Corollary. We therefore may thence know that if this, or that quantity of the *Semidiameter* TN, or TP be taken, and another *Altitude* of the Eye O, how great a variation there thence is of the sensible Horizon.

Proposition III.

The Altitude of the Eye being given on a Tower, or Mountain, to find the distance of the last point, unto which the Eye extendeth it self, or which the Eye can see.

Let PO be the given *Altitude* of the *Tower*, in which the Eye being placed beholdeth all round. Therefore in the *Triangle right Angle* NTO, the given have themselves after the same Mode, as in the preceeding *Problem*. Therefore the *Angle* NTP and the *Arch* NP shall be found after the same Mode, which we have used in the solution of the former.

Proposition. IV.

The Semidiameter of the sensible Horizon being given, or the greatest distance from which the Eye is supposed to see, to find out the Altitude of the Eye.

Of the finding out the Altitude of the Eye.

This is the same with that *Problem*. The greatest distance being given from which the *Vertex* of the Mountain is seen, to find the *Altitude* of the Mountain.

In the *Triangle* NTO, let the right *Angle* TNO be given, and the *Angle* NTO is known from the *Semidiameter* of the sensible *Horizon* PN: moreover let the *Semidiameter* of the Earth TN be given. Therefore TO shall be found according to the proportion.

As the whole *sinus* is to the *secant* of the *Angle* NTO, so is TN to TO. From which if you substract TP, the remaining number will shew the sought for *Altitude* of the Eye.

Proposition V.

The Altitude of the Eye being given, and of some erected seen Magnitude, as a Tower, the Mast of a Ship, or an high Mountain; to find the distance of this from the Eye, that is the distance of the Ship.

To find the distance of a Ship, &c. by the Eye.

For *Example*, in the *Diagram* in the preceeding *Propositions*, let PO be the *Altitude* of the Eye in the Ship, Tower, or Mountain. Let FS be the Mast of another Ship; and let P be the *point*, and FS the Ship so seated, that in P the first top of the Mast S may be seen. Therefore the *point* S shall be in the Line ON, which is the *Tangent* drawn from the Eye O: for whatsoever is seated beneath this ONX, that can send forth no direct Rays to the Eye O: but it must so draw near, that the *Vertex* or *point* may fall into the right Line OX.

Therefore the distance FP is sought, *viz.* in which the first Ray from S may come to the Eye.

In the *Triangle* NOT the *Angle* NTO is found from the given NT, TO and from the right *Angle* TNO. And again in the *Triangle right Angle* NTS, NT, TS is given, and the right *Angle* SNT: the *Angle* NTS, shall be found out: and so the whole *Angle* OTS shall be had, whose *measure* is the *Arch* PS, the distance demanded.

Proposition VI.

On the contrary, *if the Altitude of the Eye be given, and the distance, from which first the top of the approaching Mast of the Ship or Tower may be seen, to find out the Altitude of the Tower, or Mast of the Ship.*

In the *Diagram* of the former *Proposition* in the *Triangle* N O T, from the given N T, T O, the *Arch* N P is found, which being substracted from the known *Arch* P F, (from the given distance turned into *minutes*) the *Arch* F N, or the *Angle* N T S is left. And in the *Triangle* N T S, the right *Angle* N T is given, and N is the right *Angle*; therefore the *Hypotenusa* T S shall be found, from which if T F be taken, F S is left the demanded *Altitude* of the *Tower*, or *Mast* of the *Ship*, or of any Mountain.

Proposition VII.

The refraction of Rays in the Air, augmenteth the apparent Semidiameter of the sensible Horizon.

Of refraction of Rays in the Air.

For there is a divers refraction of the *Air* in divers places; but the thicker by how much it is nearer the Earth. Therefore although a Ray cannot come by a direct way to the Eye O, from the *point* situated beyond N, for *Example* F, yet his Ray may be so broken in the *Air*, that the refract may be N O, or the *Tangent* of the Earth.

CHAP. XXXV.

Of the three parts of the Nautick *Art; and in special, of the first part,* viz. *the making or building of Ships.*

Proposition I.

That is termed the Nautical *Art or Science, which teacheth how a Ship may most safely with the assistance of the winds, be sailed from one place to another through the Sea.*

By the Winds Ships are carried from one place to another in the Seas.

BEcause in this *discipline* the places of the Earth are compared amongst themselves, or mutually to themselves, and their respective situation is examined, therefore deservedly it is referred to the respective part of *Geography*.

Now I suppose that three parts may conveniently be constituted of this most Noble Art so much useful to human Society. 1. The *Art* of *building* of *Ships*, which also considereth the motion of the Ship in the *water*, or else presupposeth it as known. 2. Concerning the lading of Ships. 3. The Direction, Gubernation or Sailing of a Ship, which is termed the *Art* of the *Master*, or *Pilot*, and in general the *Art* of *Navigation* by way of Excellency: unto which also the definition of the *Nautick Art* is most of all agreable. And this part with greater right doth appertain unto *Geography* than the two former, which are more truly referred to the *Staticks*, and *Mechanicks*: now the *Art* of *Sailing* doth wholly depend on *Geography*.

Proposition II.

In the Fabricks of Ships these things following must be observed.

Things to be noted in the Fabricks of Ships.

1. That the *matter* or *wood* be taken, which may endure very long in the *water*, of which *Vitruvius* and other Authors are to be consulted. Hither also

also belongeth how the Woods are to be prepared, and their density to be augmented, the unuseful moisture to be consumed with Fire, Pitched, and defended from corruption. This *Doctrine* must be taken from *Philosophy*.

2. That such a Figure or Shape be given to a *Ship* that is most apt for a quick motion, and may be moved by a small power.

3. In this Fabrick, and in reference to the Figure, this must be observed, that a Ship may with ease be defended against *storms* and *tempests*; but of this I shall treat in the Second Part, where I shall speak of the *lading* of Ships.

4. The *Magnitude* of Ships must be considered, where there is a great comparison between the *Ancient* and *Moderns*. Some suppose that the Ship of *Alexandria*, made by *Archimedes* by the Command of *Hiero* King of *Sicily*, and presented to *Ptolomy* King of *Ægypt*, was of 12000 *tuns*. The Ship of *Philopater* is delivered by *Calixenus* to have been in length 280 *Cubits*, in breadth 38, and in highth 48 *Cubits*. The greatest Ships at this day are those of the *Spaniards*, or *Portugals*; they call them *Caracasts*. But of all Nations in *Christendom*, the *English* may best brag of their gallant Ships for the service of War. The Magnitude of Ships.

5. There belongeth to the building of Ships, the knowledge of every part, as the *Keil*, the *Rudder*, *Ribs*, *Head*, *Stern*, *Masts*, *Yards*, *Cables*, and *Anchors*, &c. of which not only the *matter*, *figure*, and *coherency*, but also the *Weight* and *Magnitude* are to be explained.

6. To the Fabrick of Ships belongeth the skill how to prevent a *breach*, *leak*, or other defects of Ships.

Thus much in brief of the First Part of the *Nautick Art* of building of Ships.

CHAP. XXXVI.

Of the Lading of Ships, or the Second Part of the Nautick *Art.*

Proposition I.

The burden to lade Ships withall is expressed by Lasts, and Tuns.

Of the Lading of Ships.

THe *Tun* of a Ship is supposed to be 2000 pounds weight, the *Lasts* twelve *Tuns*.

Proposition II.

The body or matter which is higher than water, is not mergent altogether in the water, but some part of it is above, but if it be of a greater weight than water, it will sink to the bottom: if of the same weight, it keepeth the given place in the water.

Hitherto belongeth the various knowledge of the *weights* of *bodies*, as of *Lead*, *Gold*, *Iron*, *Wheat*, *Sand*, *Oyl*, *Wine*, the gravity of all which must be compared with *water*.

Corollary. From hence it is manifest, that the *weight* of the *matter* to lade the Ship with, taken with the burden of the Ship, ought to be lesser than the burden or gravity of the *water*, whose *moles* is equal to the solidity or capacity of the whole Ship.

Proposition III.

By how much the Figure of the Ship cometh to an Ordinate, that is to a Cubick equality of Longitude, Latitude, and Thickness; by so much the more it can sustain the greater burden in the water.

The demonstration must be sought from the *Staticks*.

Pro-

Proposition IV.

In the Lading of Ships respect must be had to two things, first, that there is not imposed so great a burden, that its weight taken may be equal with the weight of the Ship, or greater than the Moles *of the water which is equal to the solidity of the Ship, but that it be lesser, though not much. But if the matter to lade the Ship be so light, the burden must be augmented with Ballast. Secondly, the depth of the water must be considered, through which the Ship is to sail.*

Ballasts required in a Ship.

For although the gravity of the Water admitteth of this or that weight of the Ship or Lading, when this is lesser than the equal gravity of the Ship is to the *moles* of the Water; yet if the Water hath lesser profundity than the part of the Ship beneath the Superficies of the Water, the bottom will not grant a motion to the Ship, but detain it. This is the reason that *Spanish* Ships carry greater burden than *Dutch*, because they have the *Sea* deeper on the Shore, and in the Harbours, as also greater Ships come to *Zeland*, than to *Holland*.

Spanish Ships carry greater burden than the *Dutch*.

Proposition V.

If a Ship be so burdened, that its weight, or gravity, be almost equal to the weight or gravity of the Sea water, equal to the capacity of the Ship, yet it sinketh not in the Sea, but when it shall be brought into any Rivers, it sinketh to the bottom.

The reason is because the Water of Rivers is lighter than the Water of the *Sea*. Therefore if the weight of the laden Ship be almost equal to the gravity of the Marine Water, therefore it shall be greater than the gravity of River Water, and so the Ship shall be sunk in the River, or carried to the bottom. Many Ships for this reason have perished, which have been over laden by unskilful *Mariners*, or not unburdened in the Mouths of the Rivers. Now how much this gravity should be, is known from the proportion of the *Sea* Water to River Water.

Proposition VI.

Any body swiming on the water hath that weight that the watery Moles *hath, equal to the demergent part of this body.*

Corollary. The part of the Ship being given which is under Water, the weight of the whole burdened Ship may be found. For the gravity of the Water is known, or is easy to be found. For *Example*, one *Cubick foot* of Water is 70 *li.* and therefore if the part of the Ship under Water be 2000 *Cubick foot*, therefore the gravity of the Watery *Moles* which is equal to the part of the Ship under Water, shall be 140000 *li.* So much also shall be the weight of the Ship laded.

Proposition VII.

A Ship is most commonly accounted commodiously to carry that quantity of burden whose gravity is equal to the gravity of half the Moles *of water, which the Ship can contain.*

For *Example*, if the Ship can carry 500000 *Tun* of Water (whereof every one is accounted at 2000 *li. weight*) that is if it contain the Water of 1000000000 *li.* You may conveniently lade it with the burden of 250000 *Tuns*, 1000000000. In this sense you must understand it, when they say that Ships are so many *Tuns*, or carry so many *Lasts*.

The *Spanish Carracks* carry 1200 *Lasts*: the greatest *Holland Indian Ship* 800 *Lasts*.

Pro-

Proposition VIII.

By how much the Weight of the Ship laded is greater, by so much the less it is tossed with storms, and tempests.

Ships of 2000 *Tuns* are not in danger of those Tempests, which are vexatious to Ships of 300, or 500 *Tuns*. Much more might be said, but this may suffice for *Elements*.

A laded Ship is not so subject to be tossed in Tempests as when not laden.

CHAP. XXXVII.

Of the third, and chief Part of the Nautick *Art*, viz. *the Art of Guiding, or Navigating of a Ship, and its subdivision of the Four Parts.*

Proposition I.

That is termed the Art of Guiding or Navigating of a Ship, which teacheth unto what quarters a Ship is to be Guided in any situation of it in the Sea; that it may come to the purposed place without danger.

I Make Four Parts of it.

1. *Special Geography*, that is the knowledge of a space intercepted between two places, and the properties of the same. 2. The knowledge of the *quarters* in every place. 3. The cognition of the Line by which the Ship is to be brought from one place to the other; for there are between every two places infinite intercepted Lines; this part is termed *Histriodromice*. 4. The knowledge of the situation of every place, unto which by sailing we arrive, or how these places are situated unto that place, unto which the Ship is to be directed. This is the chief part of the *Art* of *Sailing*.

Of the Guiding, or Steering of Ships.

Proposition II.

The cognition of the intermedial space comprehendeth these things.

1. The situations of the places, the *procurrences* of *Angles*, the bending of the Shores, the *aspect* of *Promontories*, *Mountains*, *Bays*, the *depths* of *Waters*, the *sight* of *Islands*, and *Coasts* of *Lands*. All which are known from *Special Geography*, and *Nautical Maps*, but most easily, and with greatest certainty from observation, and frequent Navigation through any track of Land; which is the only Cause that some *Mariners* are more fit to guide a Ship to such place, and others to another.

Things observed from Special *Geography* and *Nautical* Maps.

2. The knowledge of the General and Special Winds, and those that are peculiar unto any place, which is exceeding necessary in Navigations which are undertaken in the *Torrid Zone*, and adjacent places. For here a general Wind, and in many places *Anniversary* Winds (which we have shewed to be called *Mousons*, Motions, in our XX. *Chapter*) do rule, which either promote or hinder Navigation. For the *Indian Sea* is Sailed by these *Anniversary* Winds. Of these and also of *Storms* and *tempests* we have spoken in the XX. *Chapter*. See Chap. 20.

3. The Condition of the Motion of the *Seas* in every tract, also the *quarter* of it, into which *quarter* the *Sea* and *Waves* are born: for they carry the Ship with them. The diversity of those Motions in many places we have shewed in the XVII. *Chap.* See Chap. 17.

First

First of all there is required a knowledge of the Ship, and reflux of the *Sea*, and the time or hour of the increase and decrease at every day; the supputation of which is termed the reckoning of the Tides, for except a *Master* know this, the Ship is often much hazarded, when it is near Shores, or Sands, whereof most in the greatest increase of the Water, do not hinder the passage of the Ship, but most do in the decrease. So with a flux the Navigation is more facile to the Shore, and to the inlets of Rivers, and the contrary is discovered in the reflux. Of the supputation of this time we have spoken a little in the *Proposition* of the XVII. *Chapter*.

CHAP. XXXVIII.

Of the knowledge of places, viz. *the* North, South, East, *and* West, *and the intermedial quarters.*

Proposition I.

In every place to know the Plagas, viz. *the* North, South, East, *and* West, *and the intermedial quarters.*

The quarters very necessary in Navigation.

THE knowledge of this is the most necessary of all the *Problems* of the whole Art of Navigation, seeing that a Ship must be guided unto some *quarter*, which if unknown, there can be no direction, and the very defect of this knowledge alone hindred the Navigation of the Ancients; and in this is the chief difference between the Ancient and Modern Navigation. For the Ancients had not a Method by which at any time in the large *Ocean* they might know where was the *North*, where the *South*, and the other *quarters*. Therefore they could not, nor durst they commit themselves to the vast *Ocean*; but only coasted the Shores, so that they might know the *quarters* from other *places*.

The Antients had a double Method of finding out the quarters.

The Ancients had a double Method, (which serveth also to the Modern Navigation) of finding out the *quarters* (now this *Problem* is the same with that to find out the Meridian Line, and the *North* and *South quarters*; for these being known, it is easy to know the rest.) First by the *Stars*, *viz.* in the *night*, the *Bear*, or the *Helice*, and *Polary Star* so called, in the extremity of the tail of the *Ursa Minor* (of great fame amongst the Ancients) which shewed the *North quarter*, whence all the rest are found; for the face being turned to the *North*, the *East* is at the right *hand*, and the *West* on the left, the Line of which *quarters* at Right *Angles* cutteth the Line of the *North* and *South*. And these *Cardinal quarters* being found, it is easy to find the intermedial *quarters*, unto which purpose, that there may be no need of a description, they had a *Circle* made with the *quarters*, whose *Northern* Line being placed above the *Northern* Line of any place, the other *quarters* at one sight are discovered. But in the day they sought out the *quarter* by the rising or setting of the *Sun*, as we have shewed in the XXVIII *Chapter*.

See Chap. 28.

2. The other Method of the Antients for the knowing of *quarters*, was the knowledge of the situation or extension of the Shoars, and one *Promontory* to the other. For seeing the *quarter* of this extension was known to them either from the Maps, or from Observation, and Experience, they might in Navigation by seeing them know the other *quarters*. (For one *quarter* being known, all the rest are known) therefore the Ancients did not far depart from the Coasts, *viz.* that they might know the *quarter* by the benefit of the known *quarter* of the extension of Shoars. For they could not always use the Method of the *Stars*, and the rising and setting of the *Sun*.

3. The

3. The third Method of the *Ancients* of the knowledge of the quarters was the observed course of the *Ship*. For going from any place, and guiding the *Ship* to the known quarter, they were able from the mutation of the course of the *Ship* to know the quarters.

4. Hence it is manifest, that the chief cause of the dangerous and imperfect Navigation of the *Ancients*, was the ignorance of a Method, by which every where in the middle of the vast *Ocean* they might know the quarters, and so that quarter unto which the *Ship* was to be steered. For, as I have said the Method by the *Stars*, and the rising and setting *Sun*, cannot be applied on all days, and on the hours of every day: for the mark from the scituation of the Shoars faileth in the mid *Seas* in the night, neither is it safe enough in the day time.

The third Method from the observed course of the *Ship* hath not place when the *Ship* is tossed by boysterous *winds* and *tempests*, from one quarter to another. And in this casually lyeth the chief difficulty. This I thought fit to admonish concerning the Modes of the *Ancients* for the finding out the Meridian Line and the *North* and *South*, by reason that the imperfection of these was the cause of the dangerous and small Navigation of the *Ancients*, seeing that they were never able to commit themselves to the vast *Ocean*, and therefore never knew those Regions between which the *Ocean* is interposed (of which the chief is all *America*, never yet fully known.)

But at this day the Method of knowing the quarters in all places, and of finding out the Line of the *North* and *South*, is facile, by the benefit of the admirable propriety which the *Loadstone* and all *Iron* touched by it hath been found to have. *Viz.* that all *Magneticks* not hindred by others in any place direct their *points* almost to the same quarters. For there are two opposite *points* in the *Loadstone*, whereof one always and in all places turneth it self to the *North*, or the adjacent quarter, the other to the *South*, and so also the other *points* of the *Magnes* respect the other quarters *viz.* every *point* its particular quarter: but all of them are not considered, but only those two *points*, which as I have said do convert themselves to the *North* and *South*, which are termed the Poles of the *Magnes*, one *Northern*, the other *Southern*. And the same virtue (much to admiration) is communicated to the *Needle*, but by an inverted and contrary operation of nature. For the end of the *Lamine* or *Needle* which is touched at the *North* Pole of the *Magnes*, doth not convert it self to the *North*, but to the *South*, and that end which is rubbed at the *South* Pole of the *Loadstone*, turneth not to the *South* but to the *North*. These *points* of the *Needle* are also termed the Poles. Although therefore the *Loadstone* and the *Iron* touched by it have very many notable properties, yet all may be referred to two *species* or *heads*: one is, that virtue which doth extract the *Iron*: the other, by which in every place it directeth the two *points* of its Superficies to the *North* and *South*. The former faculty the *Ancients* were not ignorant of, but only this latter.

The virtue of the *Loadstone*.

Seeing therefore the *Magnes* hath this property, therefore by its help it is easy to find in any part of the Earth, or *Sea*, where the *North* or *South* is; whence all the other quarters are soon known. For if those *points* of the *North* and *South* be noted in any *Loadstone*, or the *North* and *South* Pole, and we have this *Magnes* in the *Ship*, where we are in the *Sea*, when we desire to know the quarters, the *Loadstone* being hung by a Cord that it may easily move it self, will so direct its Poles to the quarter of the *North* and *South*, that it will shew the quarters demanded. But the *Magnetick Needle* is more easy for use, whose end is touched at the *South* Pole of the *Magnes*. For if that this *Needle* be placed in the middle upon a sharp perpendicular *pin*, so that it can freely turn round, the *Needle* resting will shew by one of its ends the *North* quarter, and by the other the *South*.

From what hath been said, it is easy to make a *Nautical Instrument*.

Proposition II.

To make a Mariners Compaſs.

Of the making the *Mariners Compaſs.*

Let the deſcribed Circle on any Paper be divided into 32 Quarters, or *degrees*, and let one of theſe *deg.* being taken for the North Quarter, be aſcribed with theſe appellations, *Viz.* with a peculiar Sign (the *Flower de Luce*) and the found out *points* for the other Quarters, *viz. South, Eaſt, Weſt, North-Eaſt, North-Weſt* (as we have propounded them in the *Diagram* in the XX *Chapter*.) *Mariners* term this *Chart* the *Roſe*.

Then let the *Magnetick Needle* be ſo affixed beneath the *Chart*, that the middle of the *Needle* may be beneath its Center, and the North Pole of the *Needle* may be ſubjected to the Line of the Paper unto which we aſcribe the Northern Quarter. Moreover the Paper being ſo made, with the *Needle* lying under, let it be put upon the *pointed pin*, that it may have a free Circumrotation. So the *Index* of the North, *viz.* the *Lilly*, in any place will ſhew the North Quarter, and the *Indexes* of the other Quarters after the ſame Mode will ſhew the other Quarters of the World. And this is the Fabrick of that *Inſtrument* which the *Seamen* term the *Compaſs*, by the help of which they commit themſelves to the vaſt *Ocean*, and ſeek the remoteſt parts of the World; ſteering the Ship unto that Quarter which the *Loadſtone* directeth unto. The conſtruction of this *Compaſs* is for the places in which the *Magnetical Needle* reſpecteth the Northern Quarter: for the other places ſee the VI. *Propoſition*.

See Prop. 6.

Proposition III.

There are ſo many Quarters, as there are Points in the Periphery of every Horizon, *that is, they are infinite: now* Seamen *number* 16 *in their ſmall Navigations,* 32 *in thoſe that are Moderate; and* 64 *in the great Voyages through the vaſt Ocean.*

Concerning this *Propoſition* we have ſpoken in the XX. *Chapter*, from whence an accurate explication of it may be drawn. The *Portugals* call theſe Quarters *Rumbs*. The *Dutch, de Cours*, alſo *Een Streeck*, although they attribute theſe terms alſo to the *Loxodromical* part. But when they will denominate the intermedial Quarters, they do that by the diviſion of a ſpace lying between two Quarters.

Proposition IV.

The Magnetical Needle (*as the Poles of the* Magnes *it ſelf*) *in very few places doth reſpect the very Quarter of the* North *and* South, *but in moſt places declineth a little from that towards the* Eaſt *or* Weſt, *and that in an equal declination, and therefore altogether ſheweth not the true Quarters. That declination is called* Chalybociſis.

No Declination at one of the Iſles of *Azores.*

Yet at one of the Iſles of the *Azores* called *El Corvo*, there is no *declination*, but the *Needle* ſheweth the exact Northern *point*. The ſame is obſerved in ſome places of the ſame Meridian, but not in all parts of it. In places ſituated from this *Iſland* towards the *Eaſt*, (even to the *Promontory* of the procurrent of *Africa*, called *Cabo das Angulhas*, not far from the *Promontory* of *Good Hope*) the *Needle* declineth from the *North* towards the *Eaſt* in an equal *declination*, even to the *Iſlands* of *Triſtan de Cunha*, and the *declination* augmenteth a part more remote by 70 *degrees*, ſo that it is there about 13 *degrees*, then again it decreaſeth to the places adjacent to the *Promontory de Agulhas*, where again there is no *declination*. From that place to-

towards the *Indies* the Declination of the *Needle* beginneth from the North towards the Weſt at *Hamburgh*, the *Chalybociſis* of 90 *degrees*. At *Amſterdam* at this time about five: for in time paſt it was greater.

Now obſervations teſtifie that this Declination doth not remain the ſame, but changeth in courſe of time. For at *London* in *Anno* 1580 it was obſerved 11 *degrees* 15 *minutes*, but in *Anno* 1622, it was 6 *degrees*, 13 *minutes*; and in *Anno* 1634, it was 4 *degrees*, 6 *minutes*. And the obſervations were performed not only by the new but old *Needles* alſo. At *Paris* in *Anno* 1640 the Declination was obſerved 3 *degrees*, which in *Anno* 1610 was found 8 *degrees*. The ſame was alſo obſerved in other places.

Proposition V.

To find the Declination of the Magnetick *Needle from the true quarter of the* North *in any place.*

The finding the Declination of the *Magnetick Needle*, &c.

Let the Meridian Line be found from the Heaven, as we have ſhewed by divers ways in the XX. *Chapter*, and the Declination of the *Magnetical Needle* will ſoonbe diſcovered. But the following *Propoſition* will ſhew the more eaſy Method for the uſe of *Seamen*.

Proposition VI.

To explain the terms of Navigation, which are uſed in deſigning of this Declination, and the correction of the Mariners Compaſs, and the Modes which Sailors uſe to find out this Declination in the Sea,

The Modes which Sailors uſe to find out the Declination at Sea.

In the compoſition of the *Compaſs* the defect of the Declination is amended or corrected, *viz.* the Declination of the *Needle* being known in the place, for which the Inſtrument is prepared, that *Needle* muſt not be affixed to the Line of the *Chart*, which hath the *Flower de Luce*, and ſhould be the Index of the *North*, but under that Line, which is removed ſo many *degrees* from the Line of the *North* as the Declination of the *Loadſtone* hath been found to have towards the Line of the *Eaſt*, or *Weſt*. For ſo the *Lilly*, and the Line of the *North*, will ſhew the true *North*, although the *Needle* may Decline.

But for the uſe of Navigation, becauſe in divers places there is a different Declination, the *Needle* ought to be fitted to the *Chart*, that that may be carried round, the *Needle* remaining immovable, and the Line of that *quarter* may be brought above the *Needle*, which the obſerved Declination ſhall ſhew. For ſo the ſame Inſtrument ſhall ſerve for all places.

Now for the finding out of the Declination of the *Magnetick Needle* from the true Line of the *North*, and *South*, thus many *Mariners* do Act. They obſerve the *quarter* of the *Compaſs* in which the *Sun* doth riſe; and the *quarter* of the *Weſt*, in which the *Sun* ſetteth, for although that then they are in another place, yet they are abſent a ſmall interval from the former in which the Declination is not varied.

If theſe *quarters* of the *Compaſs* are equally diſtant from the *quarter* of the *Compaſs* in the *North*, then it is a ſign that the *Needle* in that place hath no Declination, and ſo there is no need of Correction, but the *Needle* ought to remain under the Line of the *North*: but if the *quarter* of the Eaſtern *Sun* be further diſtant than the *quarter* of the Weſtern *Sun* from the *quarter* of the *North*, then it is a ſign that the *Needle* Declineth in that place from the true Line of the *North*, towards the *Weſt*: but laſtly, if the *quarter* of the Eaſtern *Sun* be farther diſtant than the Weſtern *Sun* from the Northern *quarter* of the *Chart*, it is a ſign that the *Needle* declineth

towards the East. The quantity of the Declination is thus known: let the *Arches* intercepted between the *Northern quarter* of the *Compass*, and the *East* and *West quarters* of the *Sun*, be noted let the lesser *Arch* be deducted from the greater, the half of the residue is the Declination sought, and so many *degrees* the *North* Line of the *Chart* must be removed from the *Magnetical Needle*.

This Method hath two inconveniencies. 1. The *Sun* seemeth to arise when he is as yet 34 *minutes* beneath the Horizon, from which difference of the apparent and true rising, as also of the setting, an error redoundeth unto the quantity of the Declination, which although it be little in the places near the *Æquator*, yet in places somewhat remote from the *Æquator*, it may ascend unto two *degrees*. 2. The *Sun* oftentimes ariseth covered with Clouds, which are almost perpetual in the *Torrid Zone*.

Mariners use also sometimes another Method which is less subject to errour, *viz.* they observe the quarter of the *Compass*, in which the *Sun* is discovered any time after his rising, and at that time they observe the *Altitude* of the *Sun*. Then after noon they expect, or wait, untill they find the *Sun* to come unto the same *Altitude*; which being found, they observe the quarter of the *Compass* in which the *Sun* was then beheld: from these *quarters* or *Arches* intercepted between them and the *quarter* of the *North*, the Declination of the *Needle* is found, after the same Method that we have spoken of.

Sometimes *Mariners* skilful in *Trigonometry*, or by the help of an universal *Planisphere* use a third, or fourth Method. *Viz.* when that immediately by one observation the Declination of the *Needle* must be enquired, to know the *quarters*. For either they observe the *quarter* of the *Compass* in which the *Sun* riseth or setteth; or they observe the *quarter* in which they found the *Sun* at any observed *Altitude*: Then by a *Trigonometrical Calculation*, or a *Catholick Planisphere*, they find in what *quarter* the *Sun* truly sticketh at this time of the rising, or *Altitude*. The difference of this or that *quarter* observed on the *Compass*, is the very Declination of the *Needle*.

Proposition VII.

To shew those things, which withdraw the Magnetick *Needle from its natural scituation in any place, and therefore are the Causes that it sheweth not the quarters as it ought to do.*

Things which withdraw the *Magnetical Needle* from its natural scituation.

The chief are these. 1. The blunt extremity, or less sharpness of the *pin* on which the *Needle* is fixed. 2. Some matter in the hole that receiveth the *Needle*. 3. If the *Paper* or *Rose* lyeth beyond its *Horizontal* scituation. 4. Some admission of *Air*. 5. The vicinity of Iron: these hindrances of the true shewing must be avoided.

CHAP.

CHAP. XXXIX.

Of the Histiodrome *or Line of the course of a Ship.*

The Line of the course of a Ship is the most difficult part of *Geography*.

THis is the most difficult part of all *Geography*, of which some Authors have written so obscurely, and very many so falsely, that the *Readers* could gain nothing from their *writings* but a confused imagination, and never understand the matter it self. But we will endeavour as much as is possible to give a clear and distinct explication, and there is required in the *Reader* an attentive consideration.

Proposition I.

If that any two places be scituated in one Meridian, or if that another place be scituated from some place towards the quarter of the North, *or* South, *that same place shall be scituated towards the same quarter of the* North, *or* South, *from all those places or points, which are interposed between those two places first assumed. One of the two places lying in the same Meridian, from another, and from all intermedial points, is scituated towards the same quarter of the* North, *or* South.

Of the scituation of two places in one Meridian.

The truth of the *Proposition* is manifest if that it be rightly conceived. By places intercepted between two *points* or places, are understood all *points*, which are the intercepted *Arch* of the great Circle drawn through the two *points* first assumed; or the *points* of that *Arch* which sheweth the shortest distance. Let that place at which the scituation of the other place is expended, be termed the first; and that other whose scituation is expended, be termed the second. And for the more easy understanding, the first place is so to be conceived, that it may be in the same in the middle of the whole Earth, or in the middle of the circumjacent Regions, and by reason that it is scituated in the *Brazen Meridian* of the Globe, infinite *Verticals* are drawn through it by the circumjacent places to the *Horizon*, and so the scituation of all the rest of the places is expended at it, or the distance from the Meridian of it, or of its *Angles* which they make *vertical* with the Meridian.

The Cause of the *Proposition* is, because that the *Angle* which the Meridian of the first place maketh with the *vertical* of the first place drawn through that second place, denoteth the scituation of the second to the first, or to the *quarter*. Now if we conceive all the *points* interposed between the two places assumed of one Meridian (for these are they of which the one towards the other lyeth towards the *quarter* of the *North*, or *South*) it is manifest, that the Meridian of every one of them is the same with the *vertical*, which is drawn through every one from or through either place assumed, that is, that there is no *Angle* between the Meridians and *verticals*. Wherefore the place assumed is scituated at every interposed *point* towards the *quarter* of the *North* and *South*.

Proposition II.

If that any two places be assumed in the Æquator, *unto one of which, or the first, the scituation of the other or second be to be examined, the second scituated from the first in the chief quarter shall be the* East, *or* West, *and the second shall be scituated in the same Cardinal quarter, to all the places interposed: or, one place of two lying in the same* Æquator *from another, and from all intermedial points, is scituated to the same quarter of the* East *or* West.

For the more easy understanding of this, let any place in the *Æquator* be taken, and so placed that the Wooden Horizon may become the Horizon of it, that

that is, that the Poles of the Earth may be in the Horizon it self. Then let the second place in the *Æquator* be taken, whose situation or quarter we consider at the first place. It is manifest that it is the chief quarter of the *East*, or *West*. For the *Æquator* is *Vertical* to it, which is drawn from the first place through the second perpendicular to the Horizon, and cutteth the Meridian Line at right *Angles*. The same is also true concerning all the interjected *points*, which if that they be brought to the *Braß Meridian*, the Wooden Horizon shall be their Horizon, and the *Æquator* shall be the Prime *Vertical* of them, which cutteth the Meridian Line at right *Angles*, and passeth through the second place. Therefore this second place shall be scituated to all those interjected *points* in one and the same *Cardinal* quarter of the *East*, or *West*.

Proposition III.

If that the second place with the first be not scituated in one and the same Meridian, and both of them be not in the Æquator; the second place shall not be scituated to the first, and to all interposed points in one and the same quarter, but in divers quarters at divers points.

The knowledge of the Original of Lines which a Ship maketh, dependeth on this *Proposition.*

From this *Proposition* dependeth the knowledge of the Original of Lines which the Ship maketh, therefore the *Reader* must endeavour well to understand it.

Let any two places be taken in the Globe, which neither of them are in the *Æquator*, nor in one Meridian (for in these two kinds of scituation the quarter of the second place is not varied at the intermedial places) for *Example*, Let *Amsterdam* be taken for the first place from whence the *Voyage* is to be begun, and *Fernambuck* in *Brasilia* for the second, or unto which the *Voyage* is appointed. Let *Amsterdam* therefore be brought to the *Braß* Meridian; and let the Pole be Elevated for the *Latitude* of the same, (for so the Wooden Horizon representeth the Horizon of the place), let the *Quadrant* be affixed to the *Vertex*, and let it be applyed to *Fernambuck*, it will shew the quarter in the Horizon in which *Fernambuck* lyeth from *Amsterdam*. And the *Arch* interjected between these two places exhibiteth on the Globe the intermedial *points*. It must therefore be shewed, that the quarters in which *Fernambuck* lyeth from every one of these *points*, are not the same, but all divers, or that from every one of those intermedial places *Fernambuck* doth not lie towards one and the same quarter.

For the understanding of this we must repeat from the preceding Doctrine that the *Angle*, with the Meridian of this assumed place, maketh with the *Vertical* passing through the other place, sheweth the quarter of another place from some one place assumed; or the *Arch* of the Horizon intercepted between the Meridian and this *Vertical*, as the *Angle* sheweth the quarter of *Fernambuck* from *Amsterdam*, which the *Quadrant* with the *Braß* Meridian maketh (which is of *Amsterdam* it self).

Therefore to prove the truth of this *Proposition*, let what *points* you please be taken between *Amsterdam* and *Fernambuck* in the *Arch* subject to the *Quadrant*, and let the Meridians passing through by them be conceived. It is best to take those *points*, through which on the Globe the Meridians pass, (or the Circles of *Longitude*) because therefore the *Quadrant* passeth through every one of these places, and *Fernambuck* it self, it will represent the *Vertical* of every place, in which *Fernambuck* lyeth from them. Therefore the *Angles* which it maketh with the Meridians of each place, are the *Angles* of Position, and shew the quarters in which, or towards which *Fernambuck* lyeth from every intermedial place. Now these *Angles* are unequal, and of a different *Magnitude*, therefore the quarters also towards which *Fernambuck* lyeth from those places are divers. Now that these *Angles* are unequal is manifest from the very sight, or more evident if that by any interval of the *Compaß* you draw an *Arch* from each *point*, and measure these *Arches* intercepted between each *Meridian* and the *Vertical*: or if that we have ready by

by it self a Crooked portion, which may be fitted to the Superficies of the Globe; or if that the places themselves be brought to the *Braßen* Meridian, and the Pole be Elevated for their *Latitude*; let the *Quadrant* be applyed to the *Vertex*, and to *Fernambuck*, and in that scituation let the *degrees* of the *Arch* of the Horizon be reckoned.

Streight lined and Sea Maps are defective.

Corollary. Therefore the *streight lined* and *Sea Maps* are very defective, which do so represent the places, that if that any two places be taken, at one of which the scituation or quarter of the other be examined, this other doth seem to be in one and the same quarter from the intermedial places, which yet is false. The cause of the fault is, that they exhibit the Meridians Parallels, which yet do meet in the Poles: but *Seamen* regard not this fault, so that they do but relate the Course or quarter which they ought to have observed in Sailing from one place to another.

Proposition IV.

If a Voyage be to be made, or that a Ship be to Sail from one place to another (which two places are not in one *Meridian*, or both of them in the *Æquator*) *by a most short cut, or by this means, that it may never recede from the interposed Arch of the Vertical, in such a Voyage the quarter is changed every moment, or the quarter becometh another and another, into which the Voyage is to be taken, or the Ship is to be Sailed.*

This *Proposition* is manifest from the foregoing. For let the Voyage be taken from *Amsterdam* to *Fernambuck* by the nearest way, that is, through the *Arch* of the *Quadrant* affixed at *Amsterdam*, and passing through by *Fernambuck*. Because therefore every where in the whole Voyage, or in every *point* the Voyage is directed towards *Fernambuck*, and it is shewed in the precedent *Proposition*, that the quarters are divers, towards which from those middle *points Fernambuck* lyeth, therefore it is manifest, that the quarter becometh another and another in every moment, and in each *point*, into which the Ship is to Sail, or to be Sailed, that it may respect *Fernambuck*. See Prop. 3.

But if that the places be scituated in one Meridian, or if that both be in the *Æquator*, the Case is otherwise. For in them the same quarter of the Voyage of the *North* or *South* remaineth: in these the Cardinal quarter of the *East* or *West*.

Proposition V.

A Voyage cannot be so undertaken, or a Ship so directed, that it may tend in each moment to other, and other quarters, but for some time at the least whilst it is moved, it tendeth to one and the same quarter in appearance. Therefore whilst we are to Sail from one place to another, such a way, or line of a way is most convenient, whose every two near points are scituated in one and the same quarter in shew, although that this way be not the shortest.

A Ship in a moment cannot move from one quarter to another.

A Ship cannot tend from one quarter to another in a moment of time, but whilst that it is moved, for some time at the least it tendeth to it. Moreover it can by no means be done, that the *Seamen* should know the quarters, unto which the Ship should be Sailed, if that another quarter were so often to be assumed.

Therefore it is evident, that that passage between two places is most commodious for Navigation, whose every two vicine *points* are scituated in one and the same quarter, so that the Ship may be continually directed unto one quarter, and to come by such a direction to the place appointed. This being supposed, let us enquire, what way is thence for the Motion of the Ship. Which way indeed, if that the places be scituated in one Meridian, shall be part of the Meri-

Meridian it self: if in the *Æquator*, that way shall be a portion of the *Æquator* it self; if in one Parallel, it shall be a part of this Parallel; if in any other *Circle* besides these, that way shall be another Line, not that *Circle*, as we shall shew in the following *Propositions*.

Proposition VI.

If that a Voyage be appointed, or that a Ship be directed to the North *or* South *quarter*, (that is, if that the place from whence, and the place unto which, be in one *Meridian*), *the line of the Motion of the Ship it self shall be a part of the Meridian.*

See Prop. 1. of this Chap. It is proved from the first *Proposition* of this *Chapter*. For the place required at all the intermedial places, that is at the *points* of the *Arch* of the *Meridian* is scituated in one and the same *quarter* of the *North* and *South*, as is there said. And by the preceeding *Proposition* such a way is commodious for *Navigation* from place to place, whose every two vicine *points* are scituated in one and the same quarter. Wherefore seeing that the *Arch* of the *Meridian* is such a *way*, that shall be the *way* or *line* of the Motion of the *Ship*, *viz.* which the *Ship* by its Motion describeth, whilst that it is continually directed or steered to the *North* or *South*.

Proposition VII.

If that a Voyage be appointed from any place scituated in the Æquator *towards the* East, *or* West *quarter, the line of the Motion is a portion of the* Æquator *it self.*

See Chap. 2. We have shewed in the Second *Proposition*, that if two places be taken in the *Æquator*, the first, from whence, the second unto which the *Voyage* is appointed, that the second is scituated in one and the same *East* and *West quarter* from all the interposed *points*, that is, from the *points* of the *Arch* of the *Æquator* it self. Because therefore the *Ship* is continually directed unto these *quarters*, the *Arch* of the *Æquator* interposed between these two places shall be the *way* of the Motion of the *Ship*. And because that we supposed in the V. *Proposition*, that such a *way* between two places is to be chosen, and is commodious for *Navigation*, *viz.* whose every two vicine *points* are scituated in one and the same *quarter*, such a portion of the *Æquator* shall be chosen for the *way* of the *Ship*.

Proposition VIII.

If that a Voyage be undertaken from any place scituated without the Æquator, *towards the* East *or* West *quarter, so that the Ship continually may be directed to either of these quarters, the circumference of the Vertical Circle shall not be the line of the Motion of the Ship, but the Parallel of the* Æquator, viz. *of the Circle of the Latitude of the place, from which the Voyage is appointed.*

For because that a *Ship*, whilst it tendeth from one *Meridian* to another, is supposed to have respect to the same *quarter*, it will not remain in the *Vertical*, but presently into another *point* of the vicine *Meridian*, *viz.* which is a *point* of the *Parallel* of the *Æquator*, or of the *Circle* of the *Latitude* of the place whence the departure was made. For every *point* of this *Circle* is such, that the *Tangent lines* of this *Circle* being brought unto them may respect the *quarter* of the *East* and *West* of each of these *points*. Furthermore the *Keel* of the *Ship*, because that it is continually supposed to be directed towards these *quarters*, always shall touch this Parallel in any *point*. Or by reason that any two *points* of this Parallel are such, that one is scituated from the other towards one

one and the same *quarter* of the *East*, and *West*, and the Ship is supposed continually to be directed unto this *quarter*, neither is there any other Line on the Globe, whose *points* are so directed; therefore it followeth, that the way of the Motion of the Ship is this Parallel of the *Latitude* of the place.

Corollary. From the Three preceeding *Propositions* we collect, that if a Voyage be undertaken from any place, or that the Ship be continually directed towards any *Cardinal point*, that the way of the Ship is Circular. The way of a Ship is circular.

Proposition IX.

If that a Voyage be appointed from one place to another scituated in the same Parallel, or Circle of Latitude, *this way of the Ship shall be a portion of that Parallel, although this be not the shortest way.*

For that *line* is chosen for the *Navigation* of the Ship, by which we arrive at the place appointed, by directing the Ship continually unto one and the same *quarter*. And any two of the *points* of the Parallel of the Circle are such. Wherefore the portion of the Parallel shall be the way of the Motion of the Ship.

Corollary. There is therefore a threefold scituation of places, from one of which to the other, when a Voyage is undertaken, the way of the *Navigation* is the *Periphery* of the Circle. 1. If that both places be in one *Meridian*. 2. If that both be in the *Æquator*. And 3. If that both be in one Parallel or Circle of Latitude. In the two former kinds of scituation the way or *line* of *Navigation* is the same with the distance or shortest *way*: but in the third scituation the *line* of the *Navigation* is divers from the shortest *way*. For this is the *Arch* of the greatest Circle interjected between two places. In any other scituation of places the *way* of the *Navigation* cannot be the *Periphery* of the Circle, as we shall shew in the following *Propositions*. A threefold scituation of places.

Proposition X.

If that a Voyage be undertaken from any place, towards any quarter not Cardinal, so that the Ship may be continually directed to that quarter, the Motion of the Ship is not Circular, but a crooked line, and incompassing the Earth with infinit bendings and windings.

Let us conceive a Ship to Sail from some place, when she hath arrived to the vicine *Meridian point*, it is directed towards the *point* of the following, or nearest *Meridian*, which is scituated in the same *quarter* unto the first *point*, in which this is first to the first place, and so moreover in the following *Meridians*. Now these *points* of all the *Meridians* do not make the *Periphery* of the Circle, but a solid crooked *Helicoides*. A distinct explication of this matter is more easily shewed on the Globe, than by many words.

Loxodromy, is a way or *line* of Motion which the Ship maketh whilst it moveth from one place continually towards one *quarter* not *Cardinal*. A definition of the word Loxodromy.

This is the *Nominal definition*: but the *Essential definition* of this *line*, that is the knowledge of the Nature and Properties of it, is most difficult, for neither is it an *Helix* as many think, neither doth it depend on any property of the *Loadstone*, who say that it hath its existency thence, because the Ship followeth the conduct of the *Loadstone*, neither is it composed of the *minute particles* of many *Peripheries*, as *Nonnius* saith (which is manifest from the very Parallel Circles, which are made from the same Motion of the Ship as of *Loxodromy*) neither is the *Explication* of *Snellius* plain, who saith that *Loxodromy* is an *Helicoidical line* in the Superficies of the *Terrestrial* Globe, which a right *line* touching about every where with the *Meridians* in total by contact it comprehendeth those *points* equal *Angles* to those drawn out, for

Snellius doth not explain how such a *Tangent* ought to be conceived, or how to be drawn: and to speak properly, Loxdromy hath not *right lines Tangent*, because it is a *solid line* when that *Tangents* are drawn to plain *lines* to a curvature: for in *solid lines* infinite *Tangents* may be brought to any *points*. Moreover that definition may agree also to other draughts of *lines* when unto any *point* of such a *Meridian*, such a *Tangent*, and Crooked *line* may be conceived to be drawn from the vicine *Meridian*.

Also our *definition* may be thus proposed: Loxodromy *is a* crooked line *encompassing the* Earth *with many windings, every* point *of which lyeth from all its other* points *in appearance in one and the same* quarter; *or in which if that two* points *be taken, one* point *lyeth from another, and all the intermedial* points *in one* quarter; *or from any* point *of which if that* circular Arches *be drawn unto all the rest of the* points, *these* Arches *make equal* Angles *with the* Meridian, *which passeth through all these several* points. *This* definition *is essential.*

Proposition XI.

If that a Voyage be undertaken from one place to another, which is not scituated with the former in the same Meridian, or Æquator, nor Parallel, and in the whole Voyage the Ship be directed unto that quarter, in which the place designed is scituated from the place of the departure, you shall never by this Voyage come to the place designed, but continually the Ship shall be removed more and more from it.

A notable property in Navigation.

This notable property of *Navigation* seemed Miraculous to *Mariners* when that it was first observed, which happened in the time of *Petrus Nonnius* the *Portuguez Mathematician*, who wrote two Books of this Subject; after him many *Mathematicians* laboured in the explication of this *matter*, or Crooked *line*: and lastly, *Mariners* found it necessary for the *Nautick* use, and thence *Tables* were made.

The cause thereof.

But the Cause of this *Phænomenon* is, that the Ship being continually directed unto that *quarter* in which the second place from the first is scituated, it remaineth not in the *Periphery* intercepted between these places, but whilst that it cometh to one *point*, because here is a new Horizon, and another *quarter* the extension of the assumed Course, and this is continually done in the following *points*, thence existeth the Crooked *Helicoidical line*, in which whilst that the Ship is moved in some places it is more and more removed from the determined place, and else where it approacheth more near.

Proposition XII.

1. *When a Voyage is to be undertaken from one place towards another scituated in the same Meridian, or towards the quarter of the* North *or* South, *the Ship is continually to be directed to this quarter of the* North *or* South, *or a Meridian is to be chosen for the way of the Ship, and it will arrive at the other place.*

Observations about Voyages.

2. When a *Voyage* is to be undertaken from one place to another, and both are in the *Æquator*, the Ship shall be guided into that *quarter*, in which the other place lyeth from the first, that is to the *quarter* of the *East* or *West*, or the *line* of the *Æquator* is to be taken for the *way* of the Ship.

3. When a *Voyage* is to be undertaken from one place to another, and that they are both scituated in one Parallel of the *Æquator*, the Ship is not to be guided unto that *quarter*, in which this other place from the first lyeth, or which is extended from the first to the other, for the Ship would never arrive at the other place, but would go with infinite windings about the Earth towards the Poles: but the Course must be made into the *quarter* of the *East* or *West*, for whilst that the Ship tendeth unto that, it describeth by its Motion the Parallels of the *Æquator*, and so arriveth at the other place.

4. When

4. When a *Voyage* is to be made from one place to another which are neither in one *Meridian*, neither both in the *Æquator*, nor in one Parallel of the *Æquator*, the *Ship* must not be guided unto that *quarter*, in which the other place from the first lyeth, for it would never arrive to the other place, but the Motion of the *Ship* would describe the *Loxodrome*, which would not pass through another place: but the course must be directed unto that *quarter*, into which whilst that the *Ship* moveth, it describeth the *Loxodrome* which passeth through another place into that *quarter*, whose *Angle* with the *Meridian* is equal to the inclination of the *Loxodrome*, which passeth through those two places.

All these follow from the preceeding *Propositions*.

Proposition XIII.

Infinite Loxodromes *may proceed, or be conceived from any place of the Earth as there are infinite Verticals, but yet there are only* 28 *reckoned about every place,* viz. 7 *in the Quadrant between the Meridian of the place, and the Parallel of the place, so that they divide that right Angle into* 8 *equal parts, and the* 2 *vicine are distant an equal Angle. Yet the Parallel it self is termed an eighth* Loxodrome.

But they are called by the same Names by which the Winds, or *quarters* are named. On the Globe they are beheld to proceed and turn round about the *Earth* from the *Center* of the *Compasses*, or also from other *points* of the *Meridian*. of the number of *Loxodromes.*

But in *Nautick* use the intermedial *Loxodromes* are denominated by a distance from the adjacent *Loxodromes*, for *Example*, in a third part, a fourth part more *North*, more *East*.

Proposition XIV.

A Loxodrome *intercepted between two places is almost, or according to the sense, equal to the* Hypotenusa *of a right lined plain Triangle, whose one* Cathetus *is of an equal distance of* Latitude *of those two places, the other* Cathetus *is of an equal difference of* Longitude *of the places taken in the Parallel, which is in the middle between the Parallel of those two places.*

Such *Triangles* are termed *Loxodromical*. But places very near are to be taken for an accurate *Calculation*, that a small portion may be interposed, *viz.* places whose difference of *Latitude* is only of one scruple. What *Triangles* are termed *Loxodromes.*

Proposition XV.

The parts of the Loxodrome *intercepted between Parallels distant by an equal interval are equal.*

Therefore many small *Loxodromical Triangles*, are conceived in each *Loxodrome*, of which if that the *Loxodrome* of one be supputed, you have the quantity of the *Loxodrome* from one place into another, whose *Latitude* is known.

Proposition XVI.

The Latitude *and difference of* Longitude *of two places being given, to find out the* Loxodrome, *by which you may Sail from one place to another. Or two places being given on the Globe, or in a Map, to find out the quarter, unto which the Ship is to Sail, or to be brought from one place to the other.*

The chief Problem in the Art of Navigation, to which all the rest are referred.

This is the chief, or rather the only *Problem* of the whole *Art* of *Navigation*, unto which all the rest are referred. If that there be no difference of *Latitude*, the *Loxodrome* shall not be the way of the *Ship*, but the Parallel

lel of those places which yet is commonly termed the eighth *Loxodrome*, because after the same Mode as the other *Loxodromes*, it is generated by the Motion of the *Ship* which is directed to the *Eastern* or *Western* chief *quarter*. If that therefore there be no difference of *Latitude*, they say that the eighth *Loxodrome* ought to be taken, and the *Ship* must be steered to the chief *Oriental* or *Occidental quarter* in the whole *Navigation*. For although it be not directed to the appointed place, yet by this false direction the *Ship* shall be brought to the place.

If that that there be no difference of *Longitude*, the *way* of the *Ship* shall not be *Loxodromical*, but a part of the *Meridian* in which both the places lie, and the *quarter* of the *North* or *South*, is taken for the direction of the *Ship*.

But if the places given be of a different *Latitude* and *Longitude*, and that you are minded to work by the Globe, let the given *Latitude* be noted on the *Brazen Meridian*, and if the Parallel of one *Latitude* have in it the *Center* of any *Compass*, or from whence the *Loxodromical lines* were drawn, let this be brought on the Globe to the *Meridian* under the noted *degree* of *Latitude*: then let the Globe be turned round, until so many *degrees* of the *Æquator* pass through the *Meridian*, as there are *degrees* in the difference of *Longitude*; and then let it be observed whether any point of the *Loxodrome* brought from the *Center* be under the noted *point* of the *Meridian*. That is the *Loxodrome* sought, and it sheweth unto what *quarter* the *Ship* is to be directed that it may arrive from the given place unto the place given: if that there be no *point* of the *Loxodrome* under the noted *point* of the *Meridian*, the *Loxodrome* intermedial between those two near to that *point* must be taken.

But if that the *Center* of any *Compass* be to be found in neither Parallel of the *Latitude* from which the *Loxodromes* were drawn, let some *Loxodrome* be chosen, which may appear near to that demanded, and let it be brought to one *point* of the noted *Latitude*, or of the *Meridian*, and let the Globe be turned as before, until that the difference of *Longitude* pass through the *Meridian*. This being done, if that any *point* of the assumed *Loxodrome* be under either noted *point* of the *Meridian*, the taken *Loxodrome* shall be that which is demanded. If that such a *point* be not found, another *Loxodrome* must be taken, and you must do as before, until such an one be found; any *point* of which being found, let it be removed under the other noted *point* of the *Meridian*, or at least no long interval from it, and the *Loxodrome* shall be denominated from those nigh it, amongst which it is to be conceived as the midst.

Of Sea Charts. In *Sea Charts* it is performed after this Mode, as the *quarter* of one place is found from another, which Method in Maps of equal *degrees* of *Latitude*, is faulty, but in Maps of unequal *degrees* of *Latitude* it accurately enough discovereth the *Loxodrome* or *quarter* unto which the *Ship* is to be Sailed.

Also *Mariners* have another Method easy enough, in which by the solution of a *plain right angled Triangle* the *Loxodrome* of *Navigation* is found: but to that Method they use a *Table*, which they call a *Table* of encreasing *Latitude*, of which we have spoken in the the XXXII. *Chapter*. *See Chap.* 32.

CHAP.

CHAP. XL.

Of the chief Problem of the Art of Navigation, viz. of finding out a place in the Maps unto which, the Voyage being performed, we arrive at a certain time, or of finding out the Longitude and Latitude of this place.

Proposition I.

The quarter cannot be known, unto which the Ship is to be Sailed, that it may come unto the appointed place, except that the place be known in which the Ship was at that time.

WE have said in the former *Chapter* that this is the chief *Problem* of the *Mariners Art* concerning the finding out of the *quarter*, unto which the Ship is to be directed, but that cannot be found, except that the place be known, whence the Ship is to be directed. Therefore the solution of the *Problem* for finding out the place is necessary.

Proposition II.

To find the place in the Maps at which the Ship arriveth or toucheth at any time.

This is that work which the *Dutch* call *Het besteck in de pas-kaert*. They note with a Pin every day on the Map the place unto which they suppose the Ship to have touched, that by this means they may discover in what place they are, and unto what *quarter* the Ship is to be Sailed. They use a threefold Method in this affair, as they suppose this or that to be more rightly observed. The finding the place in Maps, at which the Ship at any time arriveth.

1. The *Rhumbe* being observed in which the Ship was directed from the place of the first day, or from the place given on the Map, or the *Rhumbe* in which the Ship was moved, and the quantity in the interim of the *Voyage* made, being observed: these two things being known, the place of the Ship is found thus on the Map: Let the *Rule* or *Compass* be taken, and one *Shank* of it be applied to the place of the former day, or from whence the Ship departed, let the other *Shank* be applied to the *vicine line* which representeth the observed *quarter* or *course*: let the *point* of the *Shank* be noted with Chalk, which is imminent over the place of the departure. Then by the interval of the *Compass* let the miles of the performed *Voyage* be taken from the opposite Scale, and let one *foot* of the *Compass* be put upon the place of the departure, but let the *Rule* be moved on the *line* of the *quarter* until the other *foot* of the *Compass* touch the noted *point* of the *Rule*. The place of the Map that is subject to that *point* in that situation of the *Rule*, is that demanded, *viz.* in which the Ship then is. Pilots without a Rule, with two pair of *Compasses* perform the Problem.

But if that you determine to find out more accurately the *point* on the Map by *Calculation*, or the place of the Ship it self, the *Problem* shall be this: The *Latitude* and *Longitude* of one place being given, and the *quarter* being given in which they Sailed unto the other place, with the *Voyage* performed; to find out the *Latitude* and *Longitude* of the other place. For these being found, you may more accurately note the place of the Ship on the Map.

2. The *quarter* being observed, in one known place to another unknown, and the *Latitude* of this other, or *Elevation* of this Pole being observed, to find the situation of this other place on the Map.

Let

Let one *ſhank* of the *Rule* be applied to the *quarter* obſerved near the place, and let the other *ſhank* be placed on the place known (or whence the *Voyage* is begun) and make there on the *ſhank* a mark with a Chalk. Then let the *ſhank* applied to the *quarter* be moved, until the other noted *point* of the *ſhank* applied to the *quarter* fall in on the Parallel of the obſerved *Latitude*. For the *point* of the falling in, is the place ſought, *viz.* the place of the *Ship*. But if that there be no Parallel of *Latitude* obſerved on the Map, let the *degrees* intercepted between this *Latitude* and the *vicine* Parallel be taken by the interval of the *Compaſs* on the *lateral line*. And let the *Rule* in the *line* of the *quarter*, and one Foot of the *Compaſs* be moved together in this Parallel, until the other Foot of the *Compaſs* and the noted *ſhank* do meet, the *point* of the meeting ſheweth the place of the *Ship*. *Seamen* uſe two pair of *Compaſſes*.

If that you will determine more accurately by the Calculation of the place demanded on the Map or *Earth* it ſelf, the *Problem* is this: The *Latitude* and *Longitude* of one place being given, and the *quarter* in which the *Navigation* is appointed to another place, and the *Latitude* of this place given, to find his *Longitude*: for the *Latitude* and *Longitude* given is the place it ſelf.

3. The quantity of the *Voyage* performed from one known place to another unknown being obſerved, and the *Latitude* of this other being obſerved, to find this other on the Maps.

Let the quantity of the *Voyage* performed be taken by the interval of the *Compaſs* from the oppoſite Scale. Then if a Parallel through the *degree* of *Latitude* be obſerved on the Map, let one Foot of the *Compaſs* be placed on the noted place, the other Foot on this Parallel. This *point* ſhall be the place demanded. But if the Parallel paſs not through the *degree* of *Latitude*, let one *ſhank* of the *Rule* be applied to the *vicine* Parallel; on the other *ſhank* let the *degree* of *Latitude* be noted, and let the *Rule* be moved until the other Foot of the *Compaſs* toucheth the noted *point* of the *Rule*. The place of the Map ſubject to the *point* in this ſcituation ſhall be the ſought for place of the *Ship*.

If that a more accurate invention is required by *Calculation*, the *Problem* ſhall be this: The *Latitude* and *Longitude* of one place being given, and the diſtance of the other on the *line* of *Navigation*, and the *Latitude* of this, to find out the *Latitude* of this other. For this being known, when the *Latitude* is obſerved, you have the ſcituation of the place it ſelf on the Maps, or *Earth*.

The 4*th* or 5*th* Method alſo of finding out of this place is alſo given, *viz.* in which the *Longitude* of the other or ſought for place is ſuppoſed to be obſerved, but the *Latitude* is unknown. But becauſe that very ſeldom the *Longitude* can be obſerved on the *Sea*; therefore this Method is omitted as unuſeful. He that deſireth more concerning this Method let him Read *Snellius*, *Stevens*, *Metius*, and others, that have treated at large of it.

See *Snellius*, *Stevens*, and *Metius*.

Propoſition III.

To conjecture unto what quarter the Ship is moved, and in what Rhombe, *although the ſigns be fallacious.*

In the ſolution of the former *Propoſition* for the finding out the place of a *Ship*, thoſe things as noted were taken and obſerved. 1. The *quarter* unto which the *Ship* is moved, and the *Rhombe*, in which. 2. The *way* made. 3. The *Latitude* of the place unto which it hath arrived. Now therefore we muſt ſhew how theſe three may be obſerved on the *Sea*, that they may be uſed for the finding out of the place. For if that theſe be not rightly known, or obſerved, the true place ſhall neither be found or diſcovered. Firſt therefore let us ſee concerning the *quarter* of the courſe of the *Ship* and the *Rhombe*.

The

The *Pilots* know the *quarter* from the *Compaſs*, or *Loadſtone*. For what *quarter*, or *Rhombe* of the *Compaſs* agreeth with the Line of the conceived Longitude of the *Ship*, the ſame is put into the *quarter* of the *Ship* to be moved, and to deſcribe its *Rhombe*. For they ſeldom uſe the *ſigns* taken from the *quarter* of the apparent riſing and ſetting of the *Sun* which they compute.

The Pilots know the quarter from the *Compaſs* or *Loadſtone*.

Theſe *ſigns* may be corrupted by divers Cauſes, ſo that they may deceive in ſhewing the *Rhombe* or *quarter*. 1. If that the Declination of the *Magnetick Needle* be uncertain in that place, and therefore the *quarters* of the *Compaſs* do not ſhew the true *quarters*. 2. If that the *Sea* in that place hath a flux to a certain place, for it will carry the *Ship* from the true *Rhombe*, although the *Ship* be directed unto the ſame *quarter*, the fluxes, and refluxes are the frequent cauſe of this error. And in many places of the *Torrid Zone*, a general Motion is of force, and in many places a ſtated and fixed Motion from ſtated *winds*. 3. *Winds*, eſpecially *ſtorms* remove the *Ship* from the *Rhombe* of their Voyage, although they ply in the ſame *quarter*. 4. The fluxes of the *Sea* which are carried towards other *quarters*, and carry the *Ship* with it. 5. The *Rudder* or *Helme* cannot be moved by him that ſteereth unto any *quarter* as it ought to be, the *waves* of the *Sea* obſtructing of it. All theſe hinder the *Ship* to be moved in the ſame *Rhombe*, whoſe *quarters* are ſhewed by the *Compaſs*. But how much it is drawn aſide muſt be learned by conjecture from the vehemency of the Flood, and of its *quarter*, and the like: but the Method is very imperfect.

Propoſition IV.

To caſt up the Voyage made upon the Rhombe, *to meaſure it at the given time from the given place.*

Pilots conjecture the ſame. 1. When they obſerve or know by experience what courſe a *Ship* is wont to make with ſuch a Wind. 2. If that they have Sailed in the ſame Meridian or vicine Line with any Wind, and have obſerved the Latitude of the place in the beginning of the Motion, and the Latitude of the place in the following time. For the difference of Latitude turned into *miles* ſheweth the courſe made for ſo long a ſpace of time, and ſuch a Wind. Whence for the time given and ſuch a Wind continuing, the courſe made is collected. 3. With more induſtry they meaſure the courſe performed by a *Boat* and *ſtring*; one end of which is faſtened to the *Boat*, and the other with the Globe is in the *Ship*, for the *Ship* remaining immovable, Sailing is permitted to the *Boat* untill it be removed 10 or 12 *Orgyas* of the ſtring, and the time elapſed between is obſerved. And from this for any time of the performed courſe of the *Ship* is found out.

The caſting up the Voyage made upon the *Rhombe*, &c.

The *ſigns* of the performed Sailing of the Ship are corrupted, and rendred uncertain by divers ways; yea are uncertain of themſelves, ſeeing they are mere conjectures. 1. Oftentimes the Ship maketh leſſer or greater way than the conjecture affordeth, *viz.* becauſe in many places of the *Sea* the flux is unto a certain *quarter*, or the *Billows* are rould unto a certain *quarter*. If therefore the Ship be directed into the ſame *quarter*, the way made will be greater than the conjecture maketh it; but if into a contrary, it will be leſſer. 2. Becauſe the Ship is carried by other Cauſes into other *quarters*, and ſo by windings arriveth at another place. 3. The *winds* are variouſly changed. 4. By how much a Ship hath the greater *Altitude*, by ſo much its Motion ſeemeth more ſlow, though it be not ſo.

Propoſition V.

To obſerve the Latitude *of a place unto which a Ship is arrived.*

The *Seamen* obſerve it by the *Sun* in the day time, and by the *Stars* in the night, as we have ſhewed in the XXIII. *Chapter*, they uſe Three *Inſtruments*, the *Aſtrolabe*, the *Radius*, and the *Triangle*.

See Chap. 23.

Pro-

Propoſition VI.

From whence it is manifeſt that the Methods uſed by Seamen *to find the places on the Maps unto which they have arrived, are fallacious, becauſe that they can neither be certain of the* Rhombe *or quarter of the way, or of the quantity of the way made, or of the obſerved* Latitude *of the place: yet the obſervation of the* Latitude *of the place unto which they are arrived, be cauſe that it is not leſs ſubject to error, eſpecially the Air and* Sea *being tranquillous, may be exempted from this fallacy.*

But from that alone the place it ſelf is not found on the Map or Earth, but a ſecond is required, *viz.* either a diſtance from another place given, or a *Rhombe* by which they Sail from the given place to that, or laſtly, the Longitude of that place from this. We have ſaid that the obſervation of the way made, or diſtance, is uncertain, as alſo that of the *Rhombs*. Therefore they return back to find out the Longitude of the place. For the Latitude and Longitude of the place being known, the place it ſelf is found on the Maps, and determined on the Globe of the Earth.

Whence it is evident that the *Art* of *Navigation* requireth the ſolution of this *Problem* to the making up of its perfection: *viz.* to find out the Longitude of the place where we are at any time, and on any day. The prize is propounded, let him win who can.

A

A

GEOGRAPHICAL DESCRIPTION OF THE WORLD,

Taken from the

WORKS

Of the Famous

Monſieur SANSON,

Late Geographer to the preſent *French* King.

To which are Added,

About an hundred GEOGRAPHICAL and HYDROGRAPHICAL TABLES, of the Kingdoms, Countreys, and Iſles in the World, with their Chief Cities and Sea-Ports; drawn from the MAPS of the ſaid Monſieur *Sanſon*, and according to the Method of the ſaid Deſcription.

Illuſtrated with MAPS.

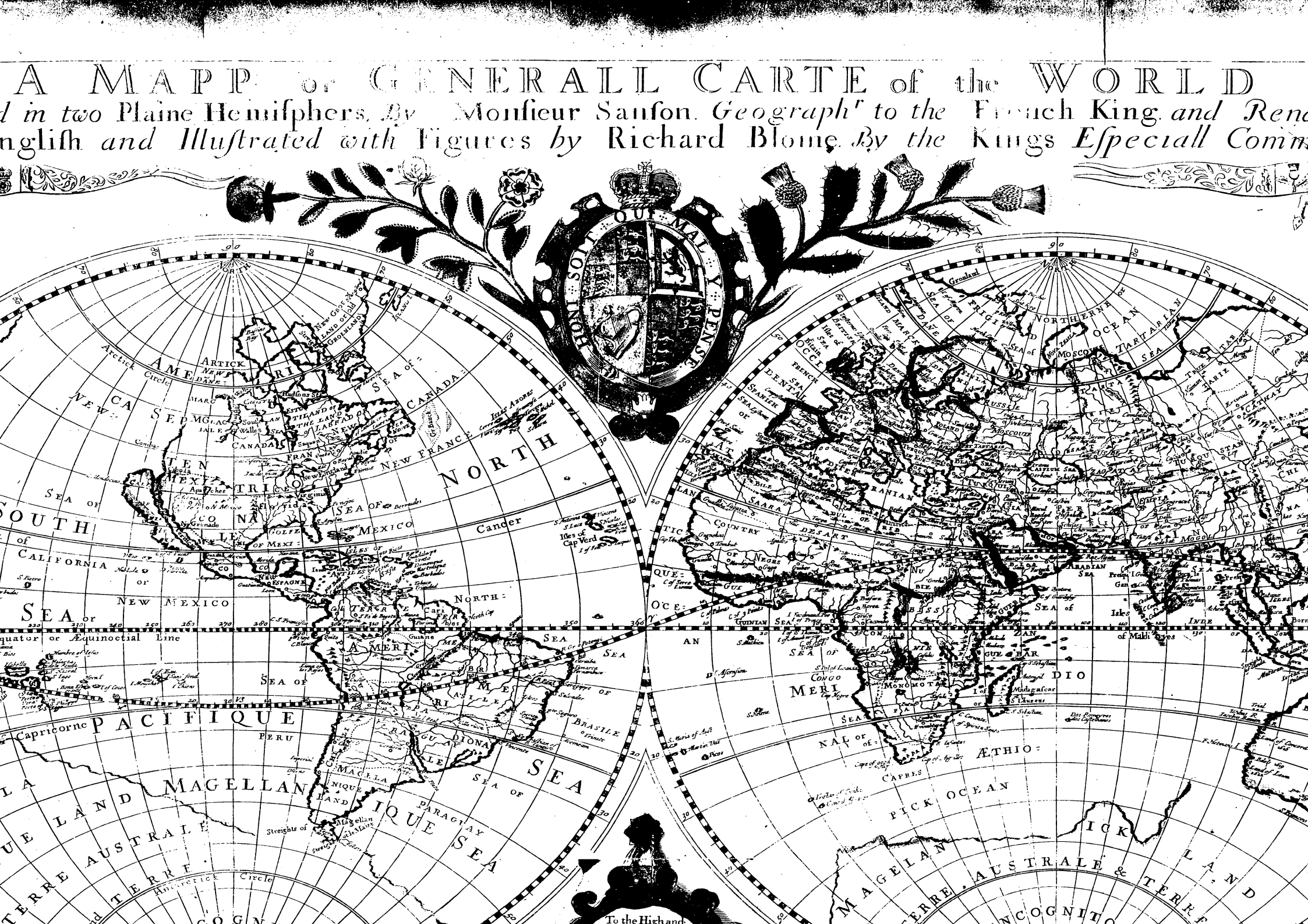
The Second Part.

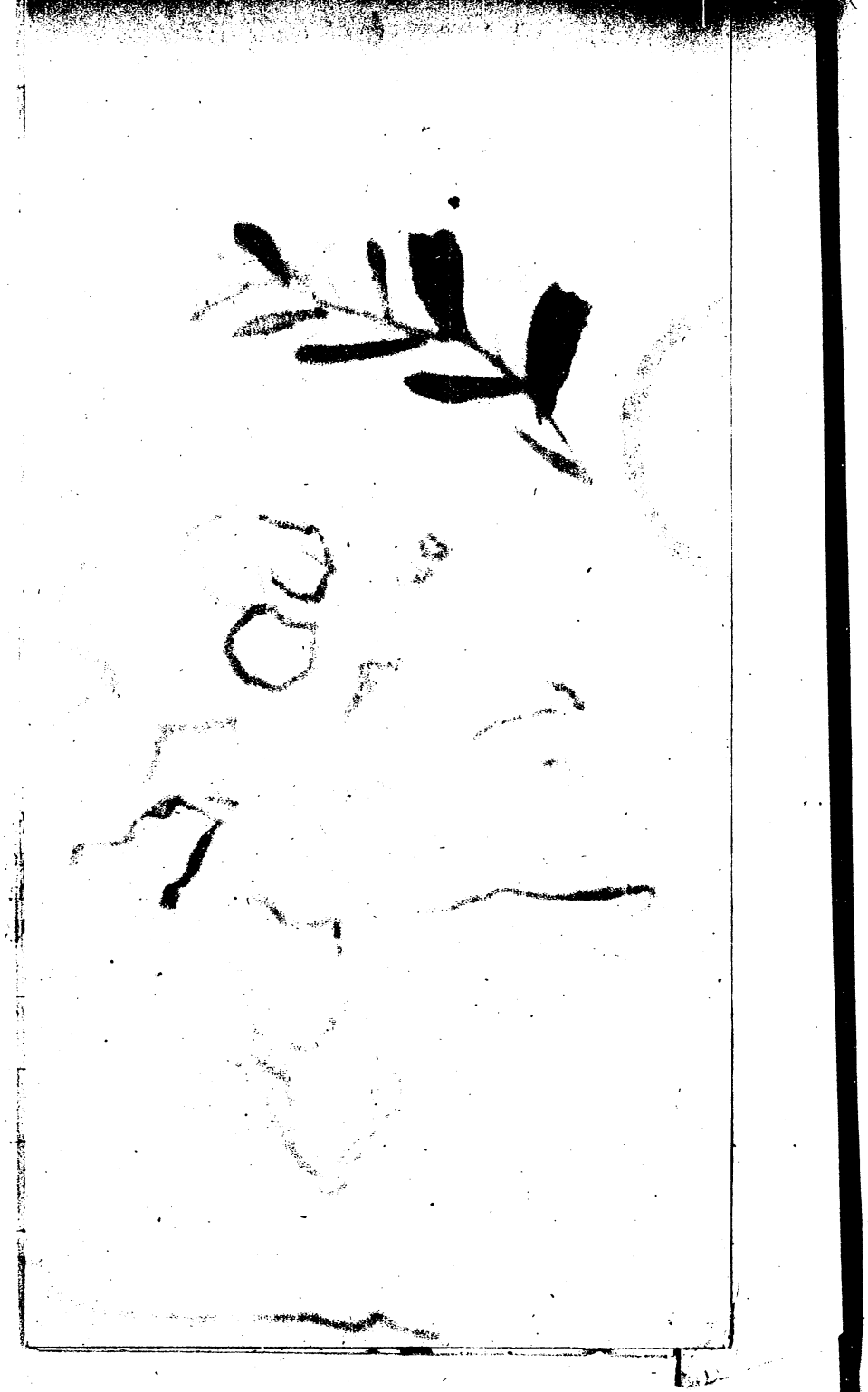
By *RICHARD BLOME.*

Printed in the Year, 1680.

A MAPP or GENERALL CARTE of the WORLD

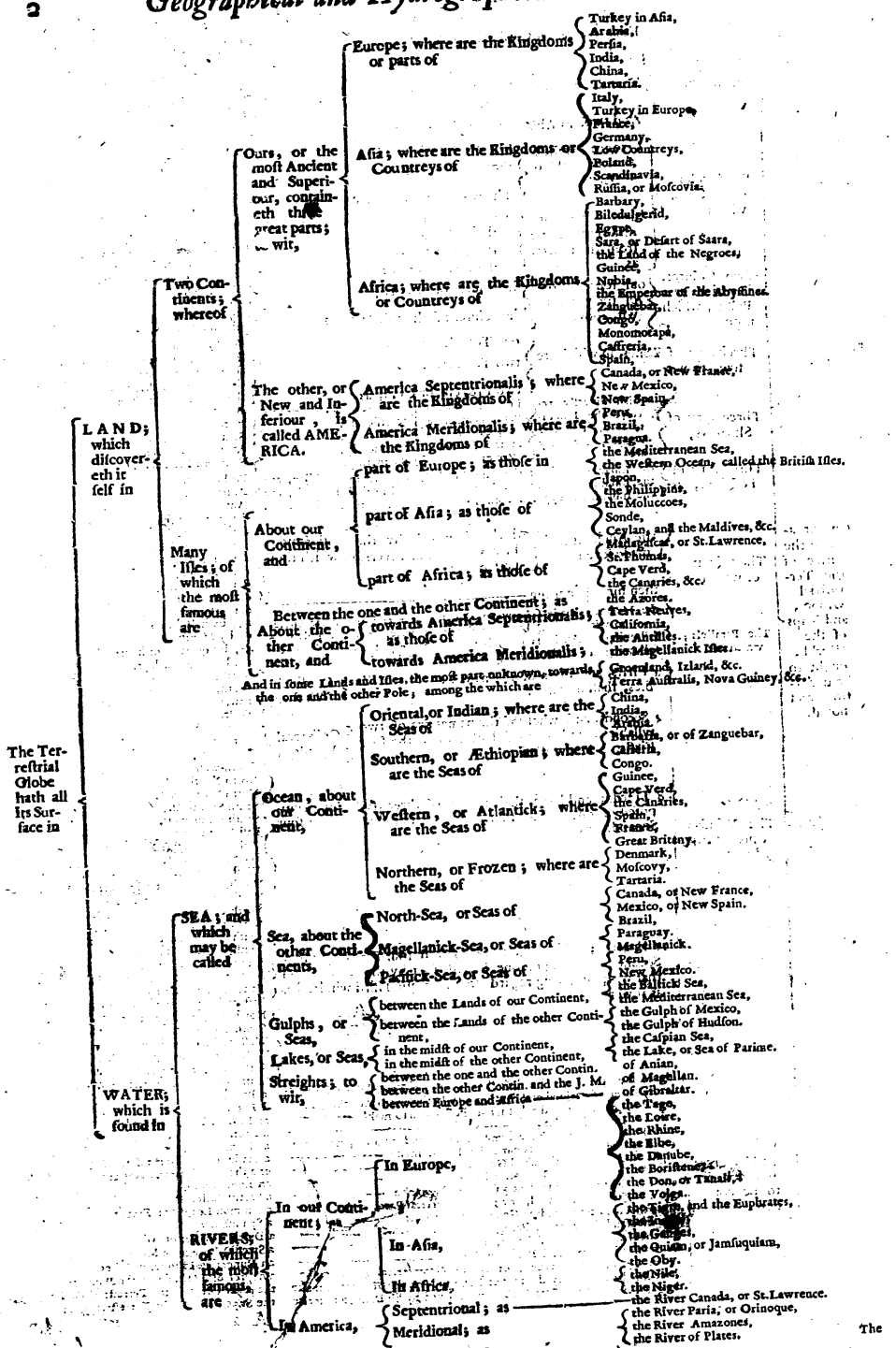
d in two Plaine Hemiſphers, *By* Monſieur Sanſon. *Geograph^r to the* French King. *and Rend*
nglish *and Illuſtrated with* Figures *by* Richard Blome. *By the* Kings *Eſpeciall Comm*



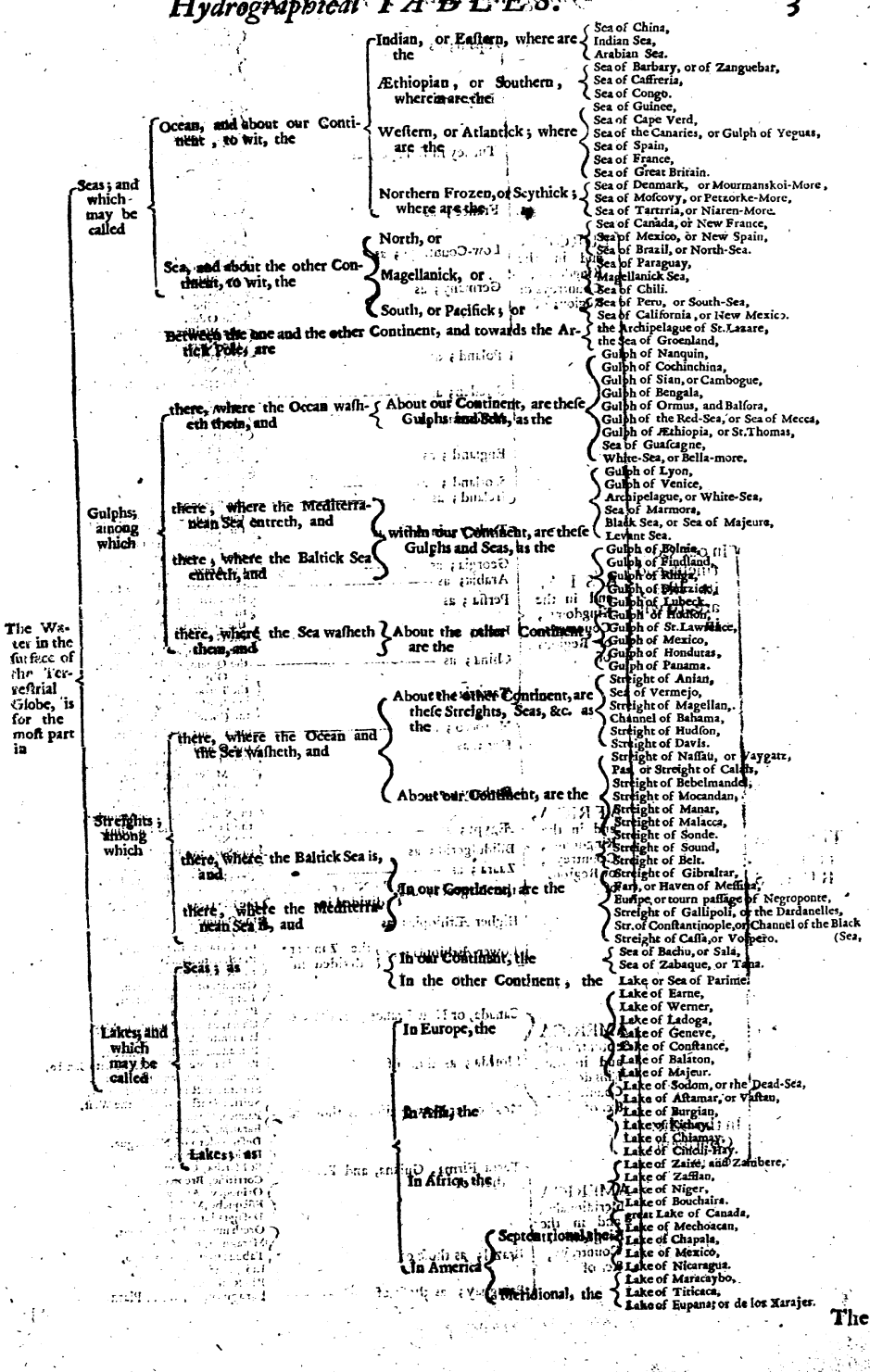


On, or above the Surface of the Terrestrial Globe, and Maps of the World, ought to be understood and noted,

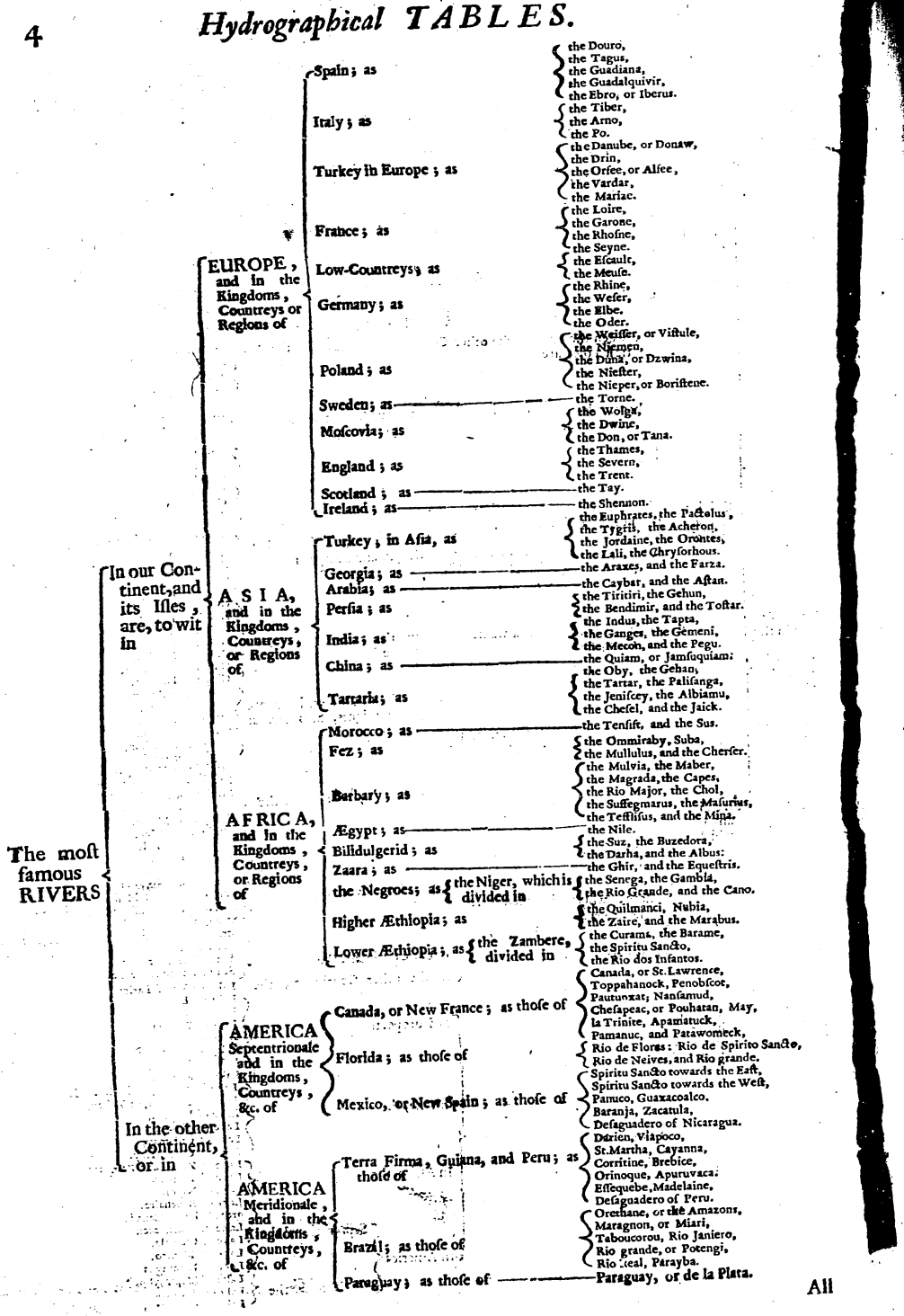
- Ten Points; of which
  - Four are called Cardinal Points, as
    - the North, or the Pole Artick.
    - the South, or the Pole Antartick.
    - the East.
    - the West.
  - Four are called Collateral Points, as
    - the East of the Summer,
    - the East of the Winter,
    - the West of the Summer,
    - the West of the Winter.
  - And two, as Above and Under us; as
    - the Zenith,
    - the Nadir.
- Ten Circles, or Lines, of which
  - Five are Parallels, the one to the other, as
    - the Æquinoctial, or ——— the Æquator.
    - the two Tropicks, as
      - the Tropick of Cancer,
      - the Tropick of Capricorn.
    - The two Polar Circles, as
      - the circle of the Pole Artick.
      - the circle of the Pole Antartick.
  - Five others are different the one from the others, as
    - in the middle of the Zodiack, as ——— the Ecliptick.
    - the Horizon, as
      - the Horizon rational,
      - the Horizon sensible, or visible.
    - the Parallels, or ——— the degrees of Latitude.
    - the Meridians, or ——— the degrees of Longitude.
- Two Colures, in which are 4 Points, which note our four Seasons of the year, to wit, above
  - the colures of the Æquinoxes, as
    - the Spring,
    - the Autumn.
  - the colures of the Solstices, as
    - the Summer,
    - the Winter.
- Three sorts of Zones, in which are five, to wit
  - one Torrid, or ——— the Parching.
  - two Temperate, as
    - the temperate Artick, or Northernly,
    - the temperate Antartick, or Southernly.
  - two Frozen, or Cold, as
    - the frozen Artick, or Northernly.
    - the frozen Antartick or Southernly.
- Three sorts of Shadows, which diversly receive the Inhabitants of the five Zones, for they are
  - in the Torrid Zone ——— Amphiscians.
  - in the Temperate Zones
    - Northernly, Northern Heteroscians,
    - Southernly, Southern Heteroscians.
  - in the Frozen Zones
    - Northernly, Northern Periscians,
    - Southernly, Southern Periscians.
- Three sorts of Positions, as
  - the Inhabitants about the same Parallel, opposite in Meridian, are Periœcians.
  - the Inhabitants about one Meridian, opposed in their Parallels, are Antœcians.
  - the Inhabitants opposed both in Meridians, and in Parallels, are Antipodes.
- The Climates; of which
  - the Ancients first made seven which they call by the most famous Places, Seas, and Rivers, by which they passed; as
    - dia (that is, through) Meroes,
    - dia Sienes,
    - dia Alexandrias,
    - dia Rhodou,
    - dia Pontou,
    - dia Boristenou,
    - dia Ripheon,
    - dia Danias.
  - then nine, in adding ———
- The Parallels, which are
  - the Moderns made 30, to wit
    - between the Æquator and the Polar circle ——— 24, by half hours,
    - between the Polar circle, and the Pole ——— 6, by Months.
  - following the Ancients 14,
    - between the Æquator and Polar circle ——— 48, by quarters of hours.
    - between the Polar circle and the Pole ——— 12, by fourteen days.
- The Winds; whereof the
  - 4 Firsts, and whereof the names are Monosyllables, shall be called Cardinal Winds, as
    - North,
    - South,
    - East,
    - West.
  - 4 Seconds, and whereof the names are of two syllables, and composed of two of the four Firsts, shall be called Collateral Winds, as
    - North-east,
    - North-west,
    - South-east,
    - South-west.
  - 8 Thirds; and have their names of three syllables, composed of one of the four Firsts, and of one of the four Seconds, as
    - North North-east,
    - North North-west,
    - South South-east,
    - South South-west,
    - East North-east,
    - East South-west,
    - West North-west,
    - West South-west.
  - 16 Fourths; taking their names from four Firsts, or four Seconds, in saying of one fourth part by the other, and that without having regard to the eight Third winds, &c. as it were
    - North, and a quarter by North-east,
    - North, and a quarter by North-west,
    - North-east, and a quarter by North,
    - North-west, and a quarter by North.
    - South, and a quarter by South-east,
    - South, and a quarter by South-west,
    - South-east, and a quarter by South,
    - South-west, and a quarter by South.
    - East, and a quarter by North-east,
    - East, and a quarter by South-east,
    - North-east, and a quarter by East,
    - South-east, and a quarter by East.
    - West, and a quarter by North-west,
    - West, and a quarter by South west.
    - North-west, and a quarter by West,
    - South-west, and a quarter by West.
- The Measures; in which are to be considered, that
  - the least part that can be described upon the Terrestrial Globe, is ——— a Point.
  - many Points, described and continued right the one to the other, make ——— a Line.
  - twelve Lines continued together, are esteemed to make ——— an Inch, or Thumbs breadth.
  - twelve Inches, make ——— a Foot.
  - two Foot and half make a common Pace, and two common Paces ——— a Geometrical Pace.
  - one hundred twenty five Geometrical Paces, make ——— a Stade, or certain measure of ground.
  - eight Stades, or one thousand Geometrical Paces, is ——— one thousand Roman Paces, or the Italian Mile
  - one thousand fifty six Geometrical Paces make ——— an English Mile.
  - one thousand two hundred sixty seven Paces make ——— a Scotish Mile.
  - two thousand four hundred, or 2500 Geometrical Paces make ——— a common League of France.
  - three thousand four hundred Geometrical Paces, or more, make ——— a Spanish League.
  - four thousand Geometrical Paces, make ——— a Dutch League, or Miles.
  - five thousand Geometrical Paces, make ——— a Swedish League, or Miles.
  - six thousand Geometrical Paces, make ——— an Hungarian League, or Miles.
  - 24 or 25 French Leagues, or 60000 Geometrical Paces make ——— a degree of Latitude on the Æquator.
  - three hundred and sixty degrees of Longitude on the Æquator, make ——— the great circle of the Terrestrial Globe.
  - the great circle of the Terr. Globe, multiplyed by his Diameter, make ——— the Superficies of the Terrestrial Globe.


The Terrestrial Globe hath all its Surface in
LAND; which discovereth it self in
Two Continents; whereof
Ours, or the most Ancient and Superiour, containeth three great parts; wit,
Europe; where are the Kingdoms or parts of
Turkey in Asia,
Arabia,
Persia,
India,
China,
Tartaria.
Asia; where are the Kingdoms or Countreys of
Italy,
Turkey in Europe,
Prussia,
Germany,
Low Countreys,
Poland,
Scandinavia,
Russia, or Moscovia.
Africa; where are the Kingdoms or Countreys of
Barbary,
Biledulgerid,
Egypt,
Sara, or Desart of Saara,
the Land of the Negroes,
Guinee,
Nubia,
the Emperour of the Abyssines,
Zanguebar,
Congo,
Monomotapa,
Caffreria,
Spain.
The other, or New and Inferiour, is called AMERICA.
America Septentrionalis; where are the Kingdoms of
Canada, or New France,
New Mexico,
New Spain.
America Meridionalis; where are the Kingdoms of
Peru,
Brazil,
Paraguay.
Many Isles; of which the most famous are
About our Continent, and
part of Europe; as those in
the Mediterranean Sea,
the Western Ocean, called the British Isles.
part of Asia; as those of
Japon,
the Philippins,
the Moluccoes,
Sonde,
Ceylan, and the Maldives, &c.
part of Africa; as those of
Madagascar, or St. Lawrence,
St. Thomas,
Cape Verd,
the Canaries, &c.
the Azores.
About the other Continent, and
Between the one and the other Continent; as towards America Septentrionalis; as those of
Terra Nevus,
California,
the Antilles,
the Magellanick Isles.
towards America Meridionalis;
Groenland, Izland, &c.
Terra Australis, Nova Guiney, &c.
And in some Lands and Isles, the most part unknown, towards the one and the other Pole; among the which are
The Terrestrial Globe hath all its Surface in
WATER; which is found in
SEA; and which may be called
Ocean, about our Continent,
Oriental, or Indian; where are the Seas of
China,
India,
Persia,
Southern, or Æthiopian; where are the Seas of
Barbary, or of Zanguebar,
Caffreria,
Congo.
Western, or Atlantick; where are the Seas of
Guinee,
Cape Verd,
the Canaries,
Spain,
France,
Great Britany.
Northern, or Frozen; where are the Seas of
Denmark,
Moscovy,
Tartaria.
Sea, about the other Continents,
North-Sea, or Seas of
Canada, or New France,
Mexico, or New Spain.
Magellanick-Sea, or Seas of
Brazil,
Paraguay.
Pacifick-Sea, or Seas of
Magellanick.
Peru,
New Mexico.
Gulphs, or Seas,
between the Lands of our Continent,
the Baltick Sea,
between the Lands of the other Continent,
the Mediterranean Sea,
in the midst of our Continent,
the Gulph of Mexico,
in the midst of the other Continent,
the Gulph of Hudson.
Lakes, or Seas,
the Caspian Sea,
the Lake, or Sea of Parime.
Streights; to wit,
between the one and the other Contin.
of Anian,
between the other Contin. and the J. M.
of Magellan.
between Europe and Affrica
of Gibraltar.
RIVERS; of which the most famous are
In our Continent; as
In Europe,
the Tago,
the Loire,
the Rhine,
the Elbe,
the Danube,
the Boristhenes,
the Don, or Tanais,
the Volga.
In Asia,
the Euphrates,
the Ganges,
the Quian, or Jamsiquiam,
the Oby.
In Africa,
the Nile,
the Niger.
In America,
Septentrional; as
the River Canada, or St. Lawrence.
Meridional; as
the River Paria, or Orinoque,
the River Amazones,
the River of Plates.

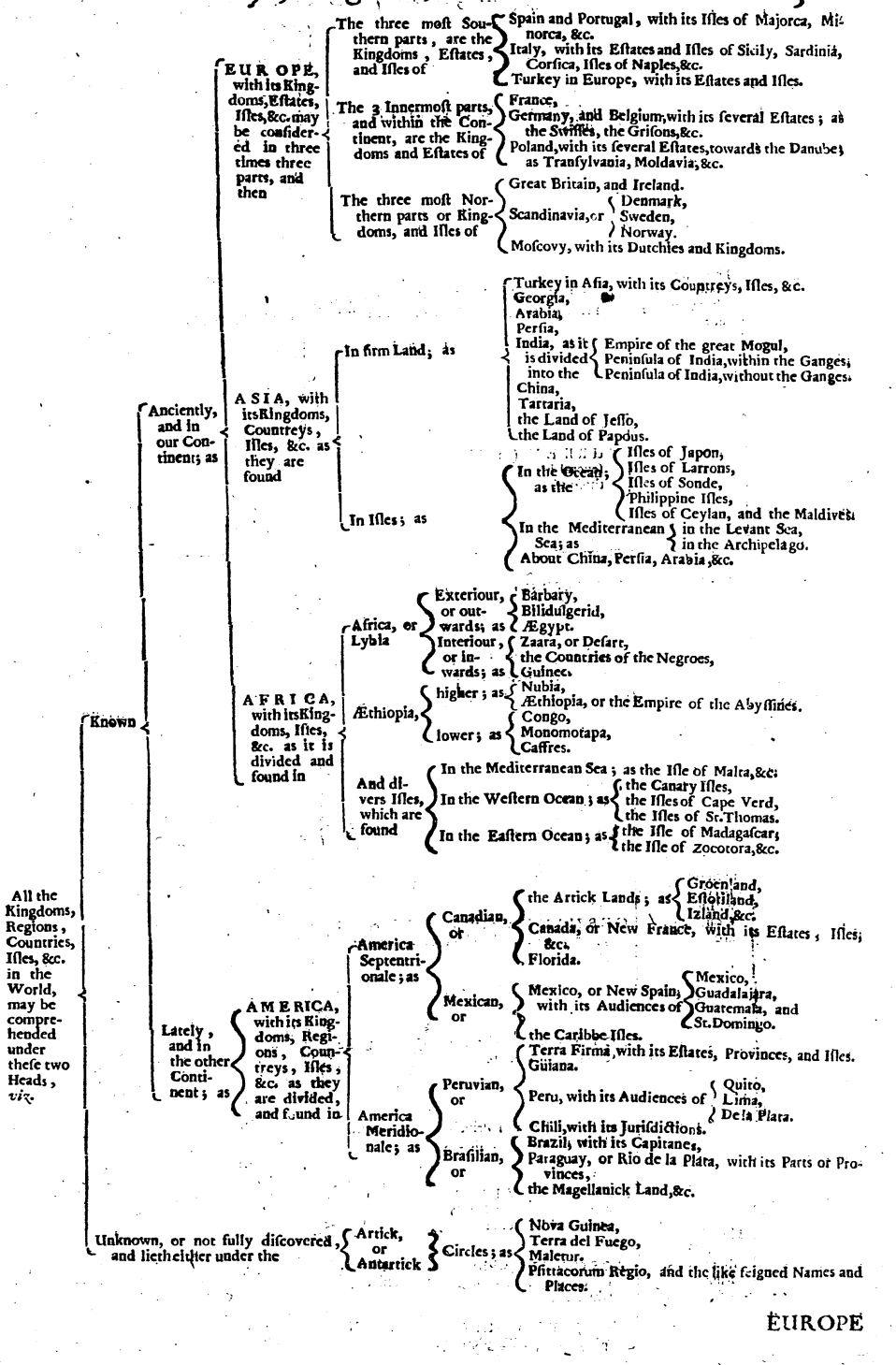
The


The Water in the surface of the Terrestrial Globe, is for the most part in
Seas; and which may be called
Ocean, and about our Continent, to wit, the
Indian, or Eastern, where are the
Sea of China,
Indian Sea,
Arabian Sea.
Æthiopian, or Southern, where are the
Sea of Barbary, or of Zanguebar,
Sea of Caffreria,
Sea of Congo.
Western, or Atlantick; where are the
Sea of Guinee,
Sea of Cape Verd,
Sea of the Canaries, or Gulph of Yeguas,
Sea of Spain,
Sea of France,
Sea of Great Britain.
Northern Frozen, or Scythick; where are the
Sea of Denmark, or Mourmanskoi-More,
Sea of Moscovy, or Petzorke-More,
Sea of Tartaria, or Niaren-More.
Sea, and about the other Continent, to wit, the
North, or
Sea of Canada, or New France,
Sea of Mexico, or New Spain,
Sea of Brazil, or North-Sea.
Magellanick, or
Sea of Paraguay,
Magellanick Sea,
Sea of Chili.
South, or Pacifick; or
Sea of Peru, or South-Sea,
Sea of California, or New Mexico.
Between the one and the other Continent, and towards the Artick Pole, are
the Archipelague of St. Lazare,
the Sea of Groenland,
Gulphs, among which
there, where the Ocean washeth them, and
About our Continent, are these Gulphs and Seas, as the
Gulph of Nanquin,
Gulph of Cochinchina,
Gulph of Sian, or Cambogue,
Gulph of Bengala,
Gulph of Ormus, and Balsora,
Gulph of the Red-Sea, or Sea of Mecca,
Gulph of Æthiopia, or St. Thomas,
Sea of Guascagne,
White-Sea, or Bella-more.
there, where the Mediterranean Sea entreth, and
within our Continent, are these Gulphs and Seas, as the
Gulph of Lyon,
Gulph of Venice,
Archipelague, or White-Sea,
Sea of Marmora,
Black Sea, or Sea of Majeura,
Levant Sea.
there, where the Baltick Sea entreth, and
Gulph of Bolnia,
Gulph of Findland,
Gulph of Rinis,
Gulph of Dantzick,
Gulph of Lubeck,
Gulph of Hulton,
there, where the Sea washeth them, and
About the other Continent are the
Gulph of St. Lawrence,
Gulph of Mexico,
Gulph of Hondutas,
Gulph of Panama.
Streights; among which
there, where the Ocean and the Sea washeth, and
About the other Continent, are these Streights, Seas, &c. as the
Streight of Anian,
Sea of Vermejo,
Streight of Magellan,
Channel of Bahama,
Streight of Hudson,
Streight of Davis.
About our Continent, are the
Streight of Naffau, or Waygatz,
Pas, or Streight of Calis,
Streight of Bebelmandel,
Streight of Mocandan,
Streight of Manar,
Streight of Malacca,
Streight of Sonde.
there, where the Baltick Sea is, and
In our Continent, are the
Streight of Sound,
Streight of Belt.
there, where the Mediterranean Sea is, and
In our Continent, are the
Streight of Gibraltar,
Port, or Haven of Meffina,
Barre, or tourn passage of Negroponte,
Streight of Gallipoli, or the Dardanelles,
Str. of Constantinople, or Channel of the Black
Streight of Cassa, or Vospero.
Seas; as
In our Continent, the
Sea of Bachu, or Sala,
Sea of Zabaque, or Tana.
In the other Continent, the
Lake or Sea of Parime.
Lakes; and which may be called
In Europe, the
Lake of Earne,
Lake of Werner,
Lake of Ladoga,
Lake of Geneve,
Lake of Constance,
Lake of Balaton,
Lake of Majeur.
In Asia, the
Lake of Sodom, or the Dead-Sea,
Lake of Aftamar, or Vaftan,
Lake of Burgian,
Lake of Kithay,
Lake of Chiamay,
Lake of Citeli-Hay.
In Africa, the
Lake of Zaire, and Zambere,
Lake of Zaffian,
Lake of Niger,
Lake of Bouchaira.
In America
Septentrional, the
great Lake of Canada,
Lake of Mechoacan,
Lake of Chapala,
Lake of Mexico,
Lake of Nicaragua.
Meridional, the
Lake of Maracaybo,
Lake of Titicaca,
Lake of Eupana; or de los Xarajes.

The


The most famous RIVERS
In our Continent, and its Isles, are, to wit in
EUROPE, and in the Kingdoms, Countreys or Regions of
Spain; as
the Douro,
the Tagus,
the Guadiana,
the Guadalquivir,
the Ebro, or Iberus.
Italy; as
the Tiber,
the Arno,
the Po.
Turkey in Europe; as
the Danube, or Donaw,
the Drin,
the Orfee, or Alfee,
the Vardar,
the Mariac.
France; as
the Loire,
the Garone,
the Rhofne,
the Seyne.
Low-Countreys; as
the Efcaulr,
the Meufe.
Germany; as
the Rhine,
the Wefer,
the Elbe,
the Oder.
Poland; as
the Meiffer, or Viftule,
the Niemen,
the Duna, or Dzwina,
the Nieffer,
the Nieper, or Boriftene.
Sweden; as
the Torne.
Moſcovia; as
the Wolga,
the Dwine,
the Don, or Tana.
England; as
the Thames,
the Severn,
the Trent.
Scotland; as
the Tay.
Ireland; as
the Shennon.
ASIA, and in the Kingdoms, Countreys, or Regions of
Turkey, in Aſia, as
the Euphrates, the Pactolus,
the Tygris, the Acheron,
the Jordaine, the Orontes,
the Lali, the Chryſorhous.
Georgia; as
the Araxes, and the Farza.
Arabia; as
the Caybar, and the Aſtan.
Perſia; as
the Tiritiri, the Gehun,
the Bendimir, and the Toſtar.
India; as
the Indus, the Tapta,
the Ganges, the Gemeni,
the Mecon, and the Pegu.
China; as
the Quiam, or Jamſuquiam:
Tartaria; as
the Oby, the Gehan,
the Tartar, the Paliſanga,
the Jeniſcey, the Albiamu,
the Cheſel, and the Jaick.
AFRICA, and in the Kingdoms, Countreys, or Regions of
Morocco; as
the Tenſift, and the Sus.
Fez; as
the Ommiraby, Suba,
the Mullulus, and the Cherſer.
Barbary; as
the Mulvia, the Maber,
the Magrada, the Capes,
the Rio Major, the Chol,
the Suffegmarus, the Maſurius,
the Teſſilius, and the Mina.
Ægypt; as
the Nile.
Bildulgerid; as
the Suz, the Buzedora,
the Darha, and the Albus:
Zaara; as
the Ghir, and the Equeſtris.
the Negroes; as
the Niger, which is divided in
the Senega, the Gambia,
the Rio Grande, and the Cano.
Higher Æthiopia; as
the Quilmanci, Nubia,
the Zaire, and the Marabus.
Lower Æthiopia; as
the Zambere, divided in
the Curama, the Barame,
the Spiritu Sancto,
the Rio dos Infantos.
In the other Continent, or in
AMERICA Septentrionale and in the Kingdoms, Countreys, &c. of
Canada, or New France; as thoſe of
Canada, or St. Lawrence,
Toppahanock, Penobſcot,
Pautunxat; Nanſamud,
Florida; as thoſe of
Cheſapeac, or Pouhatan, May,
la Trinite, Apamiatuck,
Pamanuc, and Patawomeck,
Mexico, or New Spain; as thoſe of
Rio de Floras: Rio de Spirito Sancto,
Rio de Neives, and Rio grande.
Spiritu Sancto towards the Eaſt,
Spiritu Sancto towards the Weſt,
Pamuco, Guaxacoalco.
Baranja, Zacatula,
Deſaguadero of Nicaragua.
AMERICA Meridionale, and in the Kingdoms, Countreys, &c. of
Terra Firma, Guiana, and Peru; as thoſe of
Darien, Viapoco,
St. Martha, Cayanna,
Corritine, Brebice,
Orinoque, Apuruvaca,
Eſſequebe, Madelaine,
Deſaguadero of Peru.
Brazil; as thoſe of
Orenhane, or the Amazons,
Maragnon, or Miari,
Taboucorou, Rio Janiero,
Rio grande, or Potengi,
Rio Real, Parayba.
Paraguay; as thoſe of
Paraguay, or de la Plata.

All


All the Kingdoms, Regions, Countries, Iſles, &c. in the World, may be comprehended under theſe two Heads, viz.
Known
Anciently, and in our Continent; as
EUROPE, with its Kingdoms, Eſtates, Iſles, &c. may be conſidered in three times three parts, and then
The three moſt Southern parts, are the Kingdoms, Eſtates, and Iſles of
Spain and Portugal, with its Iſles of Majorca, Minorca, &c.
Italy, with its Eſtates and Iſles of Sicily, Sardinia, Corſica, Iſles of Naples, &c.
Turkey in Europe, with its Eſtates and Iſles.
The 3 Innermoſt parts, and within the Continent, are the Kingdoms and Eſtates of
France,
Germany, and Belgium, with its ſeveral Eſtates; as the Swiſſes, the Griſons, &c.
Poland, with its ſeveral Eſtates, towards the Danube; as Tranſylvania, Moldavia, &c.
The three moſt Northern parts or Kingdoms, and Iſles of
Great Britain, and Ireland.
Scandinavia, or Denmark, Sweden, Norway.
Moſcovy, with its Dutchies and Kingdoms.
ASIA, with its Kingdoms, Countreys, Iſles, &c. as they are found
In firm Land; as
Turkey in Aſia, with its Countreys, Iſles, &c.
Georgia,
Arabia,
Perſia,
India, as it is divided into
Empire of the great Mogul,
Peninſula of India, within the Ganges,
Peninſula of India, without the Ganges.
China,
Tartaria,
the Land of Jeſſo,
the Land of Papous.
In Iſles; as
In the Ocean; as the
Iſles of Japon,
Iſles of Larrons,
Iſles of Sonde,
Philippine Iſles,
Iſles of Ceylan, and the Maldivets.
In the Mediterranean Sea; as
in the Levant Sea,
in the Archipelago.
About China, Perſia, Arabia, &c.
AFRICA, with its Kingdoms, Iſles, &c. as it is divided and found in
Africa, or Lybia
Exteriour, or outwards; as
Barbary,
Bilidulgerid,
Ægypt.
Interiour, or inwards; as
Zaara, or Deſart,
the Countries of the Negroes,
Guinea.
Æthiopia,
higher; as
Nubia,
Æthiopia, or the Empire of the Abyſſines.
lower; as
Congo,
Monomotapa,
Caffres.
And divers Iſles, which are found
In the Mediterranean Sea; as the Iſle of Malta, &c.
In the Weſtern Ocean; as
the Canary Iſles,
the Iſles of Cape Verd,
the Iſles of St. Thomas.
In the Eaſtern Ocean; as
the Iſle of Madagaſcar,
the Iſle of Zocotora, &c.
Lately, and in the other Continent; as
AMERICA, with its Kingdoms, Regions, Countreys, Iſles, &c. as they are divided, and found in
America Septentrionale; as
Canadian, or
the Artick Lands; as
Groenland,
Eſtotiland,
Izland, &c.
Canada, or New France, with its Eſtates, Iſles, &c.
Florida.
Mexican, or
Mexico, or New Spain, with its Audiences of
Mexico,
Guadalajara,
Guatemala, and
St. Domingo.
the Caribbe Iſles.
America Meridionale; as
Peruvian, or
Terra Firma, with its Eſtates, Provinces, and Iſles.
Guiana.
Peru, with its Audiences of
Quito,
Lima,
De la Plata.
Chili, with its Juriſdictions.
Braſilian, or
Brazil, with its Capitanes,
Paraguay, or Rio de la Plata, with its Parts or Provinces,
the Magellanick Land, &c.
Unknown, or not fully diſcovered, and lieth either under the
Artick, or Antartick
Circles; as
Nova Guinea,
Terra del Fuego,
Maletur.
Pfittacorum Regio, and the like feigned Names and Places.

EUROPE

EUROPE, with its Kingdoms, Isles, &c. may be considered in three times three parts; and then

The three most Southern parts, are

- SPAIN, with its Kingdoms or Principalities, viz.
  - Castile, — Madrid,
  - Leon, — Leon,
  - Navarr, — Pampelona,
  - Biscay, — Bilboa,
  - Asturie, — Oviedo,
  - Gallicia, — St. Jago de Compostella,
  - Portugal, — Lisbon,
  - Algarve, — Pharo,
  - Andaloufia, — Sevill,
  - Granada, — Granada,
  - Murcia, — Murcia,
  - Aragon, — Caragofa,
  - Valencia, — Valencia,
  - Catalonia, — Barcelona,
  - the Isles of Balcares, — Majorca.
- ITALY, with its several Estates and Principalities; the Chief of which are
  - Piedmont, — Turin,
  - Millain, — Millain,
  - Genoua, — Genoua,
  - Parma, — Parma,
  - Mantua, and Modena, — Mantua,
  - Venice, — Venice,
  - Toscany, — Florence,
  - Estate of the Church. — Rome,
  - Naples, — Naples,
  - Isle of Sicily, — Meffina,
  - Isle of Sardiny, — Calari,
  - Isle of Corfica, — Baftia.
- TURKEY (in EUROPE,) with its several Estates; the Chief of which are those of
  - Bofnie, — Jaycza,
  - Scrvie, — Belgrad,
  - Bulgaria, — Sophia,
  - Romania, — Conftantinople,
  - Macedonia, — Salonichi,
  - Theffalie, — Armicho,
  - Epire, — Perveza,
  - Achaia, — Selines,
  - Peloponnefus, — Patras,
  - Dalmacie, — Rhaguía,
  - Sclavonia, — Pofega,
  - Illyris, — Zatha,
  - Croatia, — Siffeg.

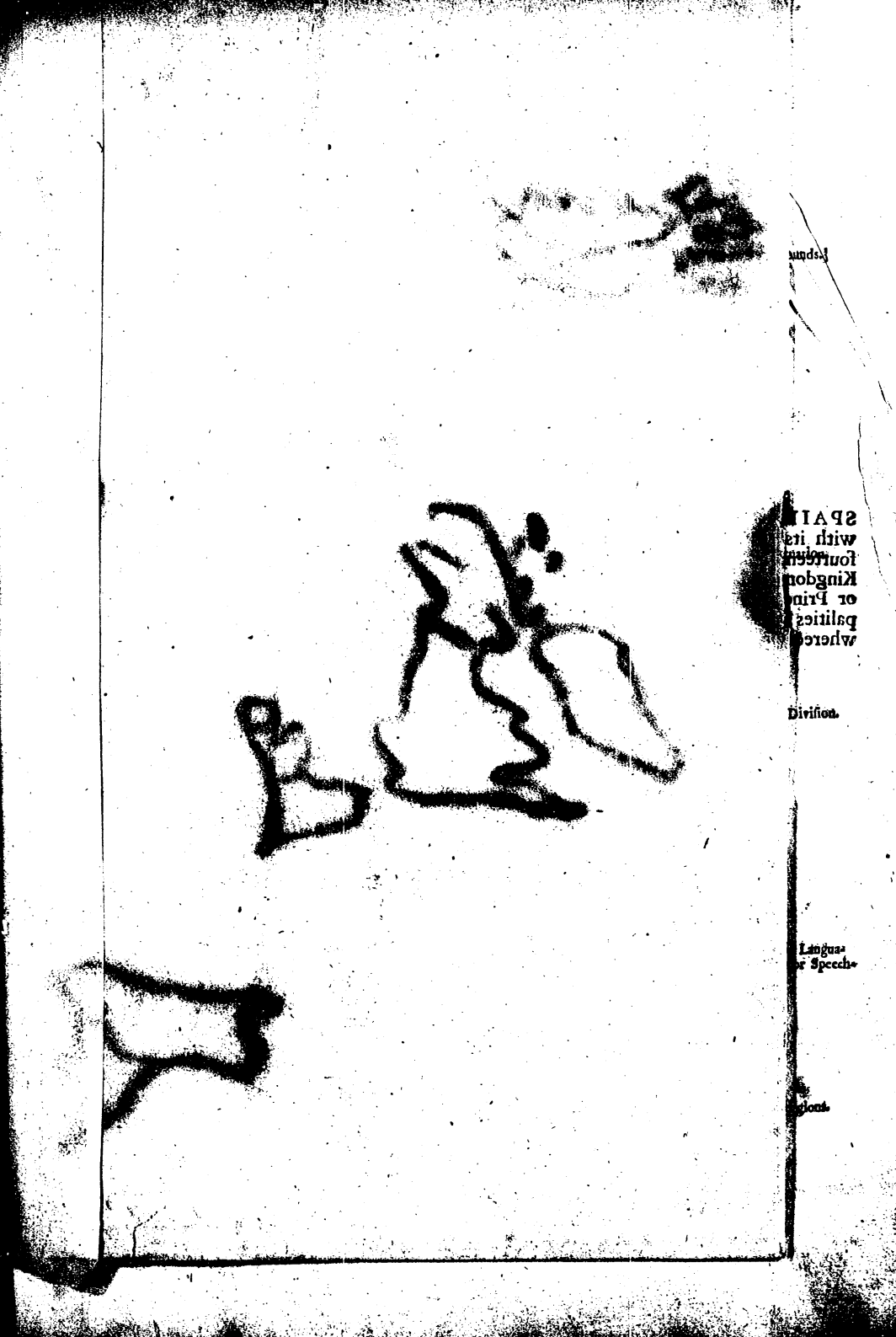
Together with several Isles, as they lie in the
- Ægean, or Grecian Seas, as — Negroponte, Crete, the Isles of Cyclades, &c.
- Ionian Seas, as — Zant, Zeffalonia, Corfu, &c.
- Adriatick Seas, as — Zara, Lefina, Curzola, Liffa, &c.

The three Innermost parts, and within the Continent, are

- FRANCE, with its twelve Governments, or General Estates; viz.
  - Picardy, — Amiens,
  - Normandy, — Roen, or Roven,
  - Isle of France, — Paris,
  - Champagne, — Troys,
  - Brelagne, — Nantes,
  - Orlenois, &c. — Orleans,
  - Bourgogne, — Dijon,
  - Lyonnois, &c. — Lyon,
  - Guyenne and Gascogne, — Bourdeaux,
  - Languedoc, — Toulouía,
  - Provence, — Marfeille,
  - Dauphin, — Grenoble.
- The several Estates, which lie between
  - France,
    - the Catholick Low Countrey, — Anvers,
    - Lorrain, — Metz,
    - the French County, — Befanfons,
    - Savoy, — Cambery.
  - Germany,
    - the Low Countreys, or the United Provinces, — Amfterdam, Rotterdam,
    - the Swiffes, — Baíle, Coire.
    - the Grifons, — Strasbourg.
- GERMANY, with its several Estates and Principalities; the chief of which are
  - On this fide the Rhine, — Cologne,
  - Beyond the Rhine, — Munfter,
  - Weftphalia, — Noremberg,
  - Franconia, — Ansbourg,
  - Sovabe, — Munchen,
  - Bavaria, — Vienna,
  - Auftria, — Prague,
  - Bohemia, — Dresden,
  - Higher Saxony, — Berlin,
  - Brandenbourg, — Stetin,
  - Pomerania, — Hamburgh.
  - Lower Saxony, — Cracow,
- POLAND, with its several Estates; the chief of which are
  - Polonia, — Dantzick,
  - Pruffie, — Warzaw,
  - Mazovie, — Wilna,
  - Lithuania, — Kyovia,
  - Volhynia, — Kamieniec,
  - Podolia, — Loewenberg.
  - Ruffia Nigra, — Buda,
- And some Estates or Principalities, towards the Danube and Black-Sea, as
  - Hungaria, — Hermenftat,
  - Tranfylvania, — Targoviíko,
  - Valaquie, — Soczowa,
  - Moldavia, — Nigropoli.
  - Little Tartaria, — Capenhaguen,

The three most Northern parts, Kingdoms and Isles, are

- SCANDINAVIA; where are the Kingdoms and Estates of
  - Denemark,
    - Denemark, — Trondhem.
    - Norway, — Calmar,
  - Sweden,
    - Gothland, — Stockholm,
    - Sweden, — Abo,
    - Finland, — Riga.
    - Livonie, — Mofco,
- MOSCOVIA, with its several Kingdoms, Dutches and Provinces; the chief of which are
  - Moscovy, — Wolodomer,
  - Wolomodire, — St. Michael Archangel,
  - Dwine, — Cazan,
  - Cazan (Kingdom) — Aftracan.
  - Aftracan (Kingdom) — London,
- The ISLES of GREAT BRITAIN; where are the Kingdoms of
  - England, — Edinburgh,
  - Scotland, — Dublin.
  - Ireland,




SEPTENTRIONAL OCEAN
SEA OF MOSCOVIA
OCCIDENTAL
Isles of Fero
Schettland Isle
Orcades Isles
ARTICK CIRCLE
SEA OF DENMARK
GOLFE OF BOTNIA
LAPPONIA
FINLAND
RUSSIA
BLANCHIA
COVIA
BALTICK SEA
BRITANNIE
IRELAND
FRENCH SEA
BLACK SEA
Minorca I
Majorca I
TOSCANE
Straits Neff
Langa Neff
Hecla Neff
Moscow
Petersburg
Archangel
Dublin
Amsterdam
Lyon
Barcelona
Naples
Constantinople
Danube
Volga

EUROPE.



EUROPE is one of the three parts of our Continent, of which *Asia* makes the most Eastern, *Africa* the most Southern, and *Europe* in regard of them is between North and West.

It is for the most part bounded by the *Ocean* and the *Mediterranean Sea*; that which we call the *Septentrional*, or *Frozen Ocean*, on the North; and the *Occidental*, or *Atlantick Ocean*, on the West: The *Mediterranean Sea* (which is but an Arm of the *Ocean*) lies on its South, and separates it from *Africa*; but from *Asia*, it is separated towards the East by divers *Seas*, which fall into the *Mediterranean*, by several Straits between these *Seas*, to wit, the *Archipelago*, the Sea of *Marmara*, the *Black Sea*, and the Sea of *Zabaque*. Between the *Archipelago* and the *Marmara*, is the Streight of *Gallipoli*, or the *Dardanelles* of old *Hellespont*; between the *Marmara* and the *Black Sea*, is the Streight of *Constantinople*, or the *Channel* of the *Black Sea*; and between the *Black Sea* and the Sea of *Zabaque*, is the Streight of *Caffa*, or *Vospero*. Then the Rivers of *Don*, *Wolga*, and *Oby*, compleat the division of *Europe* from *Asia*, by drawing a line from the one to the other. [Its Bounds.]

The scituation of *Europe* is between the 35 and 72 *degrees* of *Latitude*; and between the 10 and 100 of *Longitude*, though it fill not all this space; and it is almost all in the *Temperate Zone*, no part in the *Torrid*; but some under or near the *Frozen Zone*.

But the *Ocean*, together with the divers *Seas* which encompass and divide the parts of *Europe*, have given so great an advantage to its People, that they are long since become the most expert in the World in *Navigation*, all *Arts* and *Sciences*, and in *Arms* and *Military Discipline*.

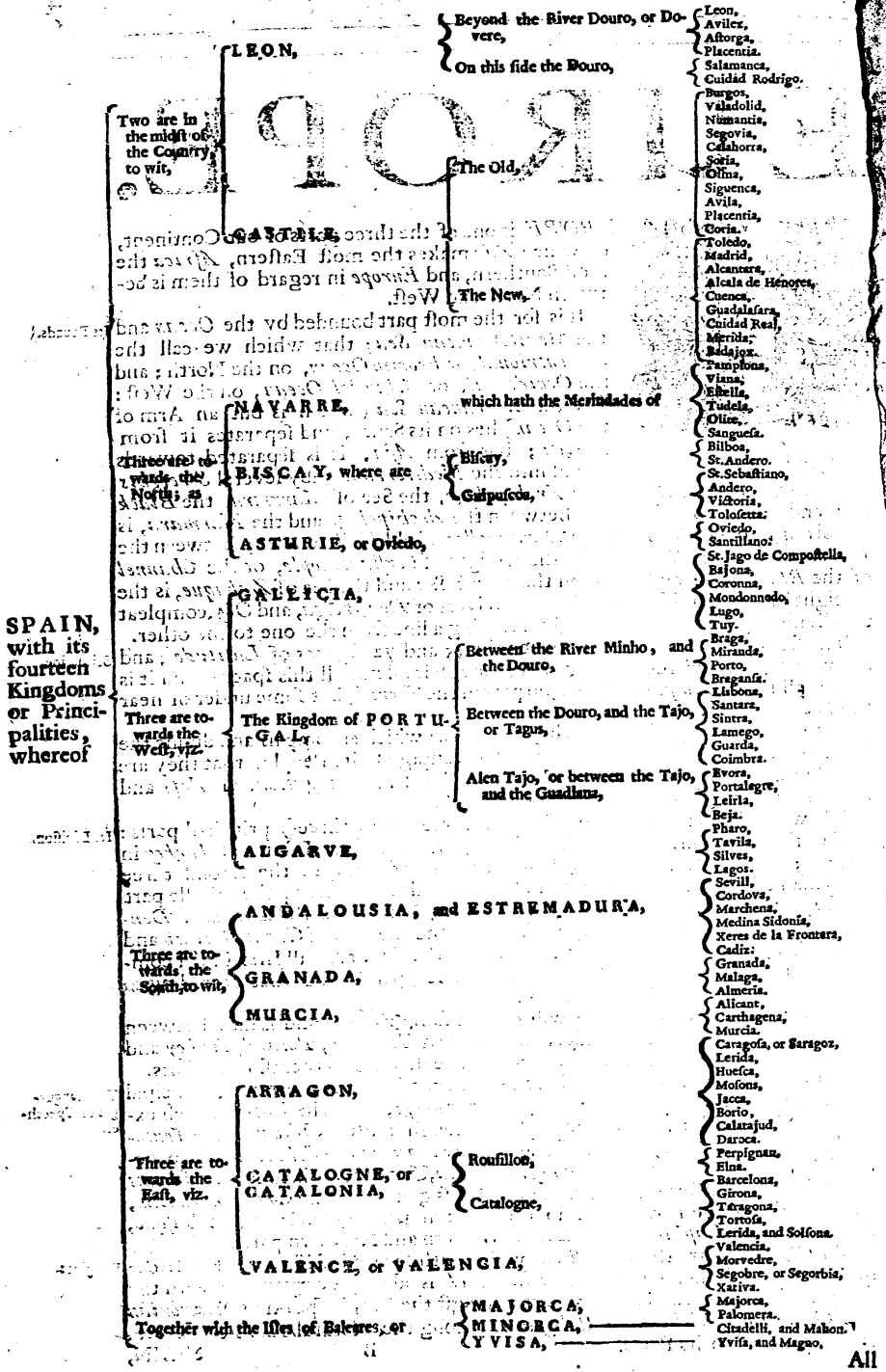
We will consider *Europe* in Nine (or three times three) principal parts: [Its Division.] And of these, the first three shall be *Spain*, *Italy*, and the Estates of *Turkey* in *Europe*; and these possess the Southern part of *Europe*: the second three parts shall be *France*, *Germany* and *Poland*, and these take up the middle part of *Europe*; and the third shall be *Scandavia*, where are the Estates of *Denmark* and *Sweden*, *Russia Alba*, or *Muscovia*, and the Isles of *Great Britain* and *Ireland*; and these are most Northward. As to the several small Isles, I shall comprehend them under one and the other of these 3 parts, and that according to their scituation or vicinity unto them.

Besides these 9 parts, there will remain some Estates and Lands between *France*, *Germany*, and *Italy*; likewise between *Germany*, *Poland*, *Turkey* and *Moscovia*; and some in *Turkey*, which shall be described as occasion presents.

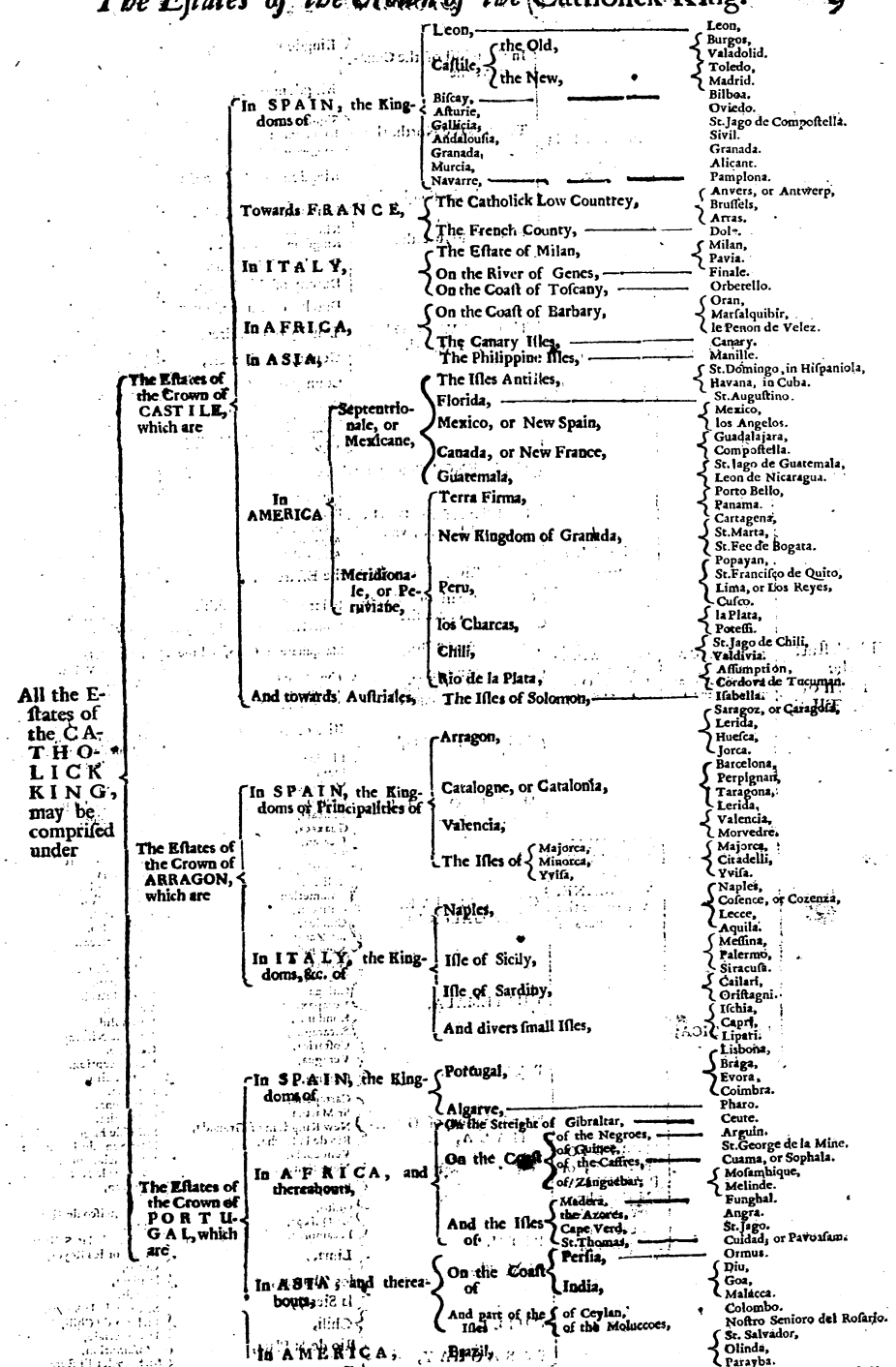
But before we proceed to the Parts, let us consider that there are 3 principal *Tongues*, and as many principal *Religions* in *Europe*, *viz.* the *Latin*, which extends it self into *Italy*, *France*, and *Spain*, though in divers *Idioms*; the *Teutonick* into *Germany*, the *British Isles*, and *Scandinavia*: the *Sclavonian* into *Poland*, *Moscovy*, in good part of *Turkey*, *Bohemia*, &c. though all the several *Idioms* and *Dialects*. The other *Tongues* are much less general, as the *Greek*, *Albanian*, *Hungarian* and the *Tartaresque* in the Eastern parts; and lastly, the *Basque*, *Welsh*, *Irish* and *Lapplandish*, in the most Western and Northern parts. [The Languages or Speeches.]

The *Religions* are the *Protestant*, which hath spread it self where the *Teutonick Tongue* is spoken; the *Roman Catholick* is almost every where with the *Latin*; *Schism*, alone and every where amongst the People speaking *Sclavonian* and *Greek*; the *Mahumetan Religion* is among the Natural Turks of *Europe*. [Religions.]

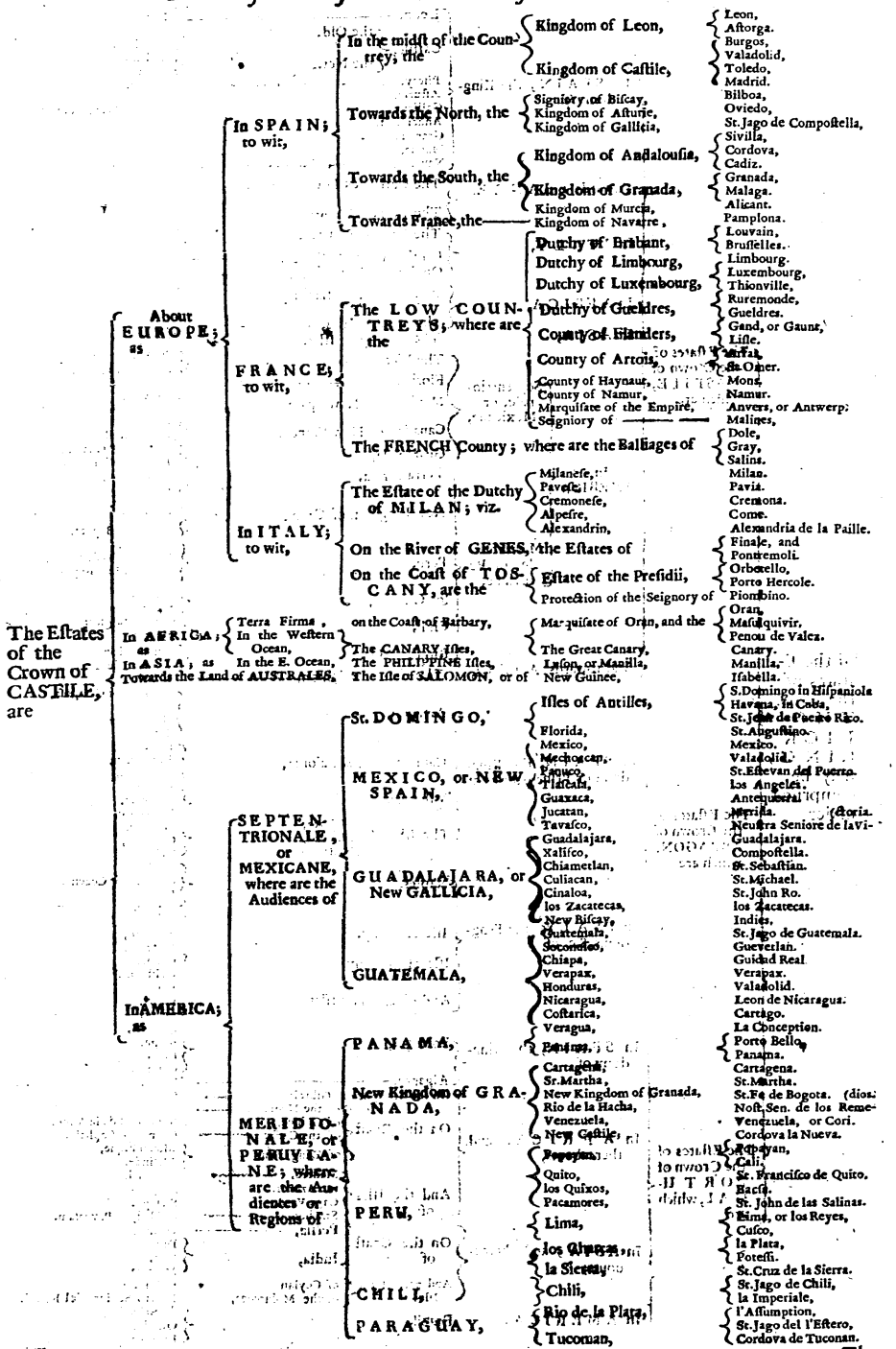
But to proceed to its Parts.


SPAIN, with its fourteen Kingdoms or Principalities, whereof
Two are in the midst of the Country, to wit,
LEON,
Beyond the River Douro, or Dovere,
Leon,
Avilez,
Aftorga,
Placentia.
On this side the Douro,
Salamanca,
Cuidad Rodrigo.
CASTILE,
The Old,
Burgos,
Valadolid,
Numantia,
Segovia,
Calahorra,
Soria,
Osma,
Siguenca,
Avila,
Placentia,
Coria.
The New,
Toledo,
Madrid,
Alcantara,
Alcala de Henores,
Cuenca,
Guadalafara,
Cuidad Real,
Merida,
Badajox.
Three are towards the North, to
NAVARRE, which hath the Merindades of
Pamplona,
Viana,
Estella,
Tudela,
Olite,
Sanguesa.
BISCAY, where are
Biscay,
Bilboa,
St. Andero.
Guipuscoa,
St. Sebastiano,
Andero,
Victoria,
Tolosetta.
ASTURIE, or Oviedo,
Oviedo,
Santillano.
GALLICIA,
St. Jago de Compostella,
Bajona,
Coronna,
Mondonnedo,
Lugo,
Tuy.
Three are towards the West, viz.
The Kingdom of PORTUGAL,
Between the River Minho, and the Douro,
Braga,
Miranda,
Porto,
Braganfa.
Between the Douro, and the Tajo, or Tagus,
Lisbona,
Santara,
Sintra,
Lamego,
Guarda,
Coimbra.
Alen Tajo, or between the Tajo, and the Guadiana,
Evora,
Portalegre,
Leirla,
Beja.
ALGARVE,
Pharo,
Tavila,
Silves,
Lagos.
Three are towards the South, to wit,
ANDALOUSIA, and ESTREMADURA,
Sevill,
Cordova,
Marchena,
Medina Sidonia,
Xeres de la Frontera,
Cadiz.
GRANADA,
Granada,
Malaga,
Almeria.
MURCIA,
Alicant,
Carthagena,
Murcia.
Three are towards the East, viz.
ARRAGON,
Caragosa, or Saragoz,
Lerida,
Huesca,
Mofons,
Jacca,
Borio,
Calatajud,
Daroca.
CATALONGNE, or CATALONIA,
Roufillon,
Perpignan,
Elna.
Catalogne,
Barcelona,
Girona,
Taragona,
Tortosa,
Lerida, and Solsona.
VALENCE, or VALENCIA,
Valencia,
Morvedre,
Segobre, or Segorbia,
Xativa.
Together with the Isles of Baleares, or
MAJORCA,
MINORCA,
YVISA,
Majorca,
Palomera.
Citadelli, and Mahon.
Yvisa, and Magao.

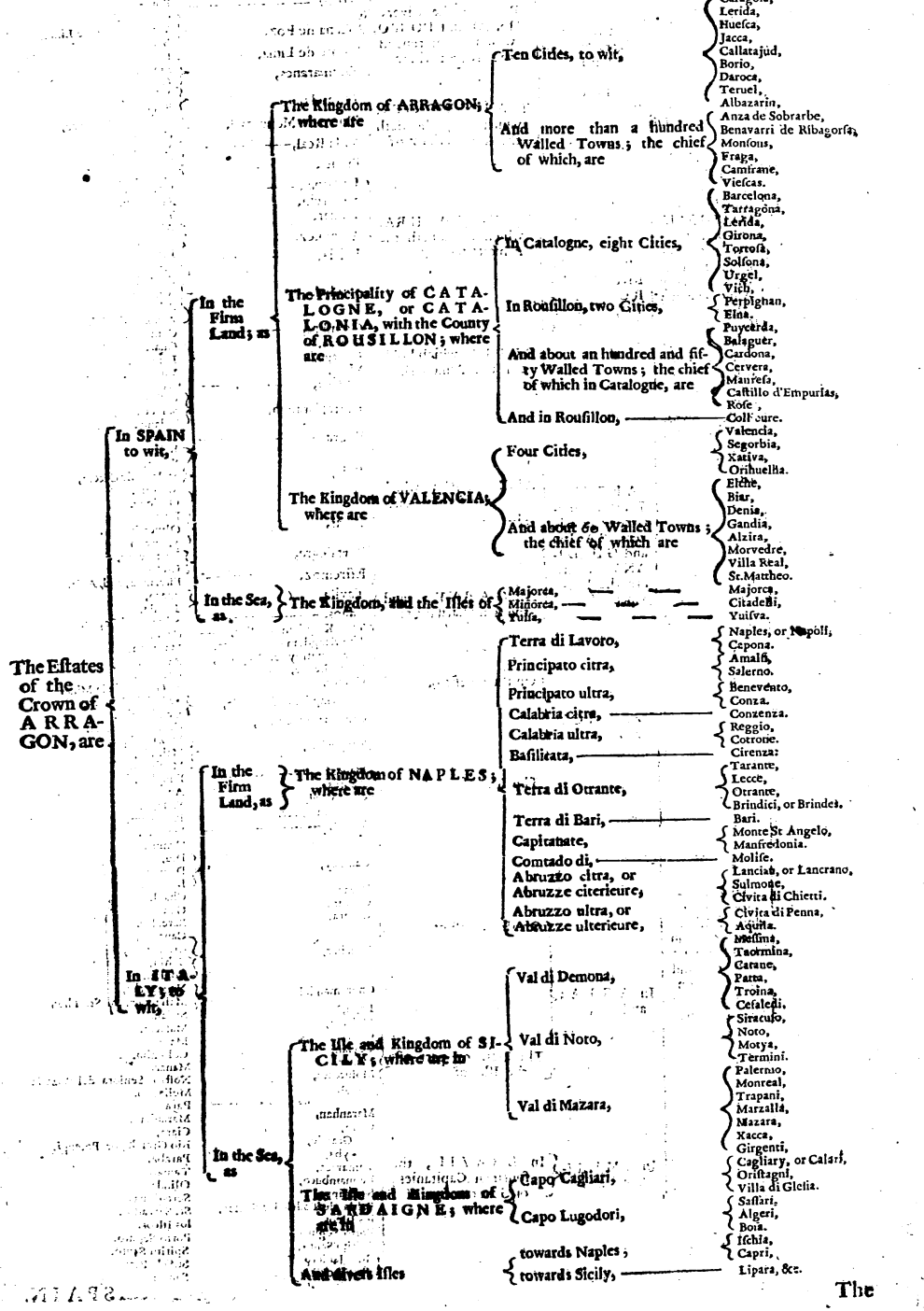
All


All the Estates of the CATHOLICK KING, may be comprised under
The Estates of the Crown of CASTILE, which are
In SPAIN, the Kingdoms of
Leon,
Castile, the Old,
the New,
Biscay,
Asturie,
Gallicia,
Andalousia,
Granada,
Murcia,
Navarre,
Leon,
Burgos,
Valadolid.
Toledo,
Madrid.
Bilboa.
Oviedo.
St. Jago de Compostella.
Sivil.
Granada.
Alicant.
Pamplona.
Towards FRANCE,
The Catholick Low Countrey,
The French County,
Anvers, or Antwerp,
Bruffels,
Arras.
Dole.
In ITALY,
The Estate of Milan,
On the River of Genes,
On the Coast of Toscany,
Milan,
Pavia.
Finale.
Orberello.
In AFRICA,
On the Coast of Barbary,
The Canary Isles,
Oran,
Marsalquibir,
le Penon de Velez.
Canary.
In ASIA,
The Philippine Isles,
Manille.
In AMERICA
Septentrionale, or Mexicane,
The Isles Antilles,
Florida,
Mexico, or New Spain,
Canada, or New France,
Guatemala,
St. Domingo, in Hispaniola,
Havana, in Cuba.
St. Augustino.
Mexico,
los Angelos.
Guadalajara,
Compostella.
St. Iago de Guatemala,
Leon de Nicaragua.
Meridionale, or Peruviane,
Terra Firma,
New Kingdom of Granada,
Peru,
los Charcas,
Chili,
Rio de la Plata,
Porto Bello,
Panama.
Cartagena,
St. Marta,
St. Fee de Bogata.
Popayan,
St. Francisco de Quito,
Lima, or los Reyes,
Cusco.
la Plata,
Potessi.
St. Jago de Chili,
Valdivia.
Assumption,
Cordova de Tucuman.
Isabella.
And towards Australes,
The Isles of Solomon,
Ilde.
The Estates of the Crown of ARRAGON, which are
In SPAIN, the Kingdoms or Principalities of
Arragon,
Catalogne, or Catalonia,
Valencia,
The Isles of
Majorca,
Minorca,
Yvisa,
Saragoz, or Caragoza,
Lerida,
Huesca,
Jorca.
Barcelona,
Perpignan,
Taragona,
Lerida,
Valencia,
Morvedre.
Majorca,
Citadelli,
Yvisa.
In ITALY, the Kingdoms, &c. of
Naples,
Isle of Sicily,
Isle of Sardiny,
And divers small Isles,
Naples,
Cosence, or Cozenza,
Lecce,
Aquila.
Messina,
Palermo,
Siracusa.
Cailari,
Oristagni.
Ischia,
Capri,
Lipari.
The Estates of the Crown of PORTUGAL, which are
In SPAIN, the Kingdoms of
Portugal,
Algarve,
Lisbona,
Braga,
Evora,
Coimbra.
Pharo.
In AFRICA, and thereabouts,
On the Streight of Gibraltar,
On the Coast of
the Negroes,
of Guinee,
of the Caffres,
of Zanguebar,
Ceute.
Arguin.
St. George de la Mine.
Cuama, or Sophala.
Mosambique,
Melinde.
And the Isles of
Madera,
the Azores,
Cape Verd,
St. Thomas,
Funghal.
Angra.
St. Jago.
Cuidad, or Pavoasam.
In ASIA, and thereabouts,
On the Coast of
Persia,
India,
Ormus.
Diu,
Goa,
Malacca.
Colombo.
Nostro Senioro del Rosario.
And part of the Isles
of Ceylan,
of the Moluccoes,
In AMERICA,
Brazil,
St. Salvador,
Olinda,
Parayba.

The


The Estates of the Crown of CASTILE, are
About EUROPE; as
In SPAIN; to wit,
In the midst of the Countrey, the
Kingdom of Leon,
Leon,
Aftorga.
Kingdom of Caſtile,
Burgos,
Valadolid,
Toledo,
Madrid.
Towards the North, the
Signiory of Biſcay,
Kingdom of Aſturie,
Kingdom of Gallicia,
Bilboa,
Oviedo,
St. Jago de Compoſtella,
Towards the South, the
Kingdom of Andalouſia,
Sivilla,
Cordova,
Cadiz.
Kingdom of Granada,
Granada,
Malaga.
Kingdom of Murcia,
Alicant.
Towards France, the
Kingdom of Navarre,
Pamplona.
FRANCE; to wit,
The LOW COUNTREYS; where are the
Dutchy of Brabant,
Louvain,
Bruſſelles.
Dutchy of Limbourg,
Limbourg.
Dutchy of Luxembourg,
Luxembourg,
Thionville,
Ruremonde,
Gueldres.
Dutchy of Gueldres,
County of Flanders,
Gand, or Gaun,
Liſle.
County of Artois,
Arras,
St. Omer.
County of Haynaut,
Mons.
County of Namur,
Namur.
Marquiſate of the Empire,
Anvers, or Antwerp.
Seigniory of
Malines,
The FRENCH County; where are the Balliages of
Dole,
Gray,
Salins.
ITALY; to wit,
The Eſtate of the Dutchy of MILAN; viz.
Milaneſe,
Milan.
Paveſe,
Pavia.
Cremoneſe,
Cremona.
Alpeſtre,
Come.
Alexandrin,
Alexandria de la Paille.
On the River of GENES, the Eſtates of
Finale, and
Pontremoli.
On the Coaſt of TOSCANY, are the
Eſtate of the Preſidii,
Orbetello,
Porto Hercole.
Protection of the Seignory of
Piombino.
In AFRICA; as
Terra Firma, on the Coaſt of Barbary,
Marquiſate of Oran, and the
Oran,
Maſulquivir,
In the Weſtern Ocean,
Penon de Valez.
The CANARY Iſles,
The Great Canary,
Canary.
In ASIA; as
In the E. Ocean,
The PHILIPPINE Iſles,
Luſon, or Manilla,
Manilla.
Towards the Land of AUSTRALES,
The Iſle of SALOMON, or of
New Guinee,
Iſabella.
In AMERICA; as
SEPTENTRIONALE, or MEXICANE, where are the Audiences of
St. DOMINGO,
Iſles of Antilles,
S. Domingo in Hiſpaniola
Havana, in Cuba,
St. Jean de Puerto Rico.
Florida,
St. Auguſtino.
MEXICO, or NEW SPAIN,
Mexico,
Mechoacan,
Panuco,
Tlaſcala,
Guaxaca,
Yucatan,
Tavaſco,
Mexico.
Valadolid.
St. Effevan del Puerto.
Los Angeles.
Antequuera.
Merida.
Victoria.
Nuevira Seniore de la Vi-
GUADALAJARA, or New GALLICIA,
Guadalajara,
Xaliſco,
Chiametlan,
Culiacan,
Cinaloa,
los Zacatecas,
New Biſcay,
Guadalajara.
Compoſtella.
St. Sebaſtian.
St. Michael.
St. John Ro.
los Zacatecas.
Indies.
GUATEMALA,
Guatemala,
Soconuſco,
Chiapa,
Verapax,
Honduras,
Nicaragua,
Coſtarica,
Veragua,
St. Jago de Guatemala.
Gueverlan.
Guidad Real
Verapax.
Valadolid.
Leon de Nicaragua.
Cartago.
La Conception.
MERIDIONALE, or PERUVIANE; where are the Audiences or Regions of
PANAMA,
Panama,
Porto Bello,
Panama.
New Kingdom of GRANADA,
Cartagena,
St. Martha,
New Kingdom of Granada,
Rio de la Hacha,
Venezuela,
New Caſtile,
Cartagena.
St. Martha.
St. Fe de Bogota. (dios.
Noſt. Sen. de los Reme-
Venezuela, or Cori.
Cordova la Nueva.
Popayan,
Cali.
PERU,
Quito,
los Quixos,
Pacamores,
Lima,
los Charcas,
la Sierra,
St. Francisco de Quito.
Baeza.
St. John de las Salinas.
Lima, or los Reyes,
Cuſco,
la Plata,
Poteſſi.
St. Cruz de la Sierra.
CHILI,
Chili,
St. Jago de Chili,
la Imperiale,
l'Aſſumption,
PARAGUAY,
Rio de la Plata,
Tucoman,
St. Jago del l'Eſtero,
Cordova de Tuconan.

The


The Eſtates of the Crown of ARRAGON, are
In SPAIN to wit,
In the Firm Land; as
The Kingdom of ARRAGON; where are
Ten Cities, to wit,
Caragoſa,
Lerida,
Hueſca,
Jacca,
Callatajud,
Borio,
Daroca,
Teruel,
Albazarin,
And more than a hundred Walled Towns; the chief of which, are
Anza de Sobrarbe,
Benavarri de Ribagorſa,
Monſous,
Fraga,
Camfrane,
Vieſcas.
The Principality of CATALONGNE, or CATALONIA, with the County of ROUSILLON; where are
In Catalogne, eight Cities,
Barcelona,
Tarragona,
Lerida,
Girona,
Torroſa,
Solſona,
Urgel,
Vich.
In Rouſillon, two Cities,
Perpignan,
Elna.
And about an hundred and fifty Walled Towns; the chief of which in Catalogne, are
Puycerda,
Balaguer,
Cardona,
Cervera,
Manreſa,
Caſtillo d'Empurias,
Roſe,
And in Rouſillon,
Collioure.
The Kingdom of VALENCIA, where are
Four Cities,
Valencia,
Segorbia,
Xativa,
Orihuella.
And about 60 Walled Towns; the chief of which are
Elche,
Biar,
Denia,
Gandia,
Alzira,
Morvedre,
Villa Real,
St. Mattheo.
In the Sea, as
The Kingdom, and the Iſles of
Majorca,
Minorca,
Yuiſa,
Majorca,
Citadelli,
Yuiſva.
In ITALY; as wit,
In the Firm Land, as
The Kingdom of NAPLES; where are
Terra di Lavoro,
Naples, or Napoli,
Capua.
Principato citra,
Amalfi,
Salerno.
Principato ultra,
Benevento,
Conza.
Calabria citra,
Conzenza.
Calabria ultra,
Reggio,
Cotrone.
Baſilicata,
Cirenza.
Terra di Otrante,
Tarante,
Lecce,
Otrante,
Brindici, or Brindes.
Terra di Bari,
Bari.
Capitanate,
Monte St Angelo,
Manfredonia.
Comtado di,
Moliſe.
Abruzzo citra, or Abruzze citerieure,
Lanciano, or Lancrano,
Sulmone,
Civita di Chieti.
Abruzzo ultra, or Abruzze ulterieure,
Civita di Penna,
Aquila.
Meſſina,
Taormina,
Carane,
Patta,
Troina,
Cefaledi.
In the Sea, as
The Iſle and Kingdom of SICILY; where are in
Val di Demona,
Val di Noto,
Siracuſo,
Noto,
Motya,
Termini.
Val di Mazara,
Palermo,
Monreal,
Trapani,
Marzalla,
Mazara,
Xacca,
Girgenti.
The Iſle and Kingdom of SARDAIGNE; where are in
Capo Cagliari,
Cagliary, or Calari,
Oriſtagni,
Villa di Gleiia.
Capo Lugodori,
Saſſari,
Algeri,
Boia.
towards Naples,
towards Sicily,
Iſchia,
Capri,
Lipara, &c.
And divers Iſles

The

The Eſtates of the Crown of PORTUGAL, are

In EUROPE, the PORTUGALS or Kingdom of PORTUGAL comprehendeth three Regions, ſix Provinces, twenty Almoxarifatz; (that is, Courts of Audience, or for the Receipt of the Kings Revenue) 18 Cities, more than 400 walled Towns, 200 Boroughs, 4000 Pariſhes. The Regions are

Between the Rivers MINHO and DOURO; where are the Provinces of

Between the Rivers MINHO and DOURO, which comprehend the Almoxarifatz of

- Porto, — Porto.
- Viana de Foz, — Caminha, Viana de Foz de Lima, Barcelos.
- Ponte de Lima, — Ponte de Lima.
- Guimaranes, — Braga, Guimaranes.

TRA-LOS MONTES, which comprehendeth the Almoxarifatz of

- Miranda, — Miranda, Braganſa.
- Torro de Moncorvo, — Torre de Moncorvo, Chiaves.
- Villa Real, — Villa Real, Caſtel Rodrigo,
- Pinhel, — Pinhel.

Between the Rivers DOURO and TAJO; where are the Provinces of

ESTREMADURA, which containeth the Almoxarifatz of

- Lisbona, — Lisbona.
- Santarein, — Santarein.
- Tomar, — Tomar.
- Alenquez, — Alenquez, Sintra.
- Leiria, — Leiria.
- Setubal, — Setubal, Cezimbra, Almada, Palmela, Alcazer do Sal.

BEIRA, which holdeth the Almoxarifatz of

- Coimbra, — Coimbra.
- Guarda, — Guarda.
- Lamego, — Lamego.
- Viſeu, — Viſeu.
- Aveiro, — Aveiro.
- Caſtel Branco, — Caſtel Branco, Salvaterra, Indanha.

ALENTAJO, or between the Rivers TAJO and GUADIANA; where are the Provinces of

ALEN-TAJO; which holdeth the Almoxarifatz of

- Evora, — Evora.
- Beja, — Beja, Serpa, St Jago de Cacem, Mertola, Ourique.
- Elvas, — Elvas, Olivenſa, Mouraon.
- Portalegre, — Portalegre, Crato.
- Eſtremoz, — Eſtremoz, and Avis.

ALGARVE; and the Almoxarifatz of

- Tavila, — Pharo, Tavila.
- Lagos, — Silves, and Lagos.

In AFRICA; and

On the Coaſts of

- The Kingdom of Fez, — Ceuta.
- The Kingdom of Morocco, — Mazagan.
- The Country of Negroes, — Arguin.
- Sierre Leone, — Cachieu.
- Guinee, — St. George de la Mina.
- The Kingdom of Angola, — St Pol de Loanda, Cambambe.
- Caffreria, or Cafres, — Cuama, or Sofala.
- Zanguebar, — Mozambique, Malinde, Monbaza.

The Iſles of

- Madera, — Funghal.
- Azores, — Angra.
- Cape Verd, — St. Jago.
- St. Thomas, &c. — Pavoſam.

In ASIA; and

Divers Eſtates, Kingdoms; Iſles, Cities, &c. in the other parts of the one and the other Continent; among the which are

On the Coaſt of

- Arabia, — Maſcate.
- Perſia, — Ormus.
- Cambay, — Diu, Daman, Bazaim.
- Decan, — Chaul.
- Concan, — Goa.
- Canara, — Barcelor.
- Malabar, — Cananor, Cranganor, Cohin, Coulan.
- Choromandel, — Negapatan, Mallapour, or St. Thomas:
- Pegu, — Siriah.
- Malacca, — Malacca.
- China, — Macao.

The Iſles, or part of the Iſles of

- Ceylan, — Colombo.
- Mandi, — Manar.
- Moluccoes, — Noſtro Seniora del Rozaria.
- Japon, — Meliapon.

In AMERICA; and

In BRAZIL, the fourteen Capitanies, or Governments of

- Para, — Para.
- Maranhan, — Maranhan.
- Ciara, — Ciara.
- Rio Grande, — Rio Grande, or Potengi.
- Paraiba, — Paraba.
- Tamaraca, — Tamaraca.
- Fernambuco, — Olinda.
- Seregippa, — Seregippa.
- Bahia de Todos los Santos, — St. Salvador.
- los Illeos, — los Illeos.
- Porto Seguro, — Porto Seguro.
- Spiritu Santo, — Spiritu Santo.
- Rio Janiery, — St. Sebaſtian,
- St. Vincent, — Santos.

SPAIN.




To Mr Nathaniel Herne of the City of London Merchant This Mappe is humbly Dedicated by R. Blome
The Bay of Biscaye
Part of Africa
The Streights of Gibralter
Spanish Sea
A General Mapp of the Kingdom of Spaine By Monsieur Sanson Geographer to the Franch King
A Scale of Geometricall miles
A Scale of Spanish leagues
A Scale of French leagues
Francis Lamb Sculp

SPAIN.

THE Kingdom of *SPAIN* is almost quite encompassed with the *Ocean* and *Mediterranean Sea*; and the *Pyrenean* Mountains seperate it from *France*. These Mountains are that *Isthmus* or neck of Land, that uniteth *Spain* to the Continent; and serveth as a defence and bound for this Kingdom and *France*; and the Inhabitants that here reside, are a sort of rude and Barbarous people.

Spain taken conjointly with *Portugal* (which though a particular Kingdom, hath been always taken as a Member thereof) extends it self from the *35th degree* of *Latitude* unto almost the *44th*; and from the *9th degree* of *Longitude* to the *24th*.

Situation.

It is seated in the most Southernly part of the North *Temperate Zone*, the longest Summers-day making *15 hours*. It is a Country not over fertil in *Corn* or *Cattel*, which doth occasion the People to order their Diet accordingly, their chief food being *Sallets* and *Fruits*, the product of the Earth; so that with a small piece of *flesh*, they will make two or three Dishes; and above all their *Oleums* are esteemed as an excellent dish. But in recompence of the defect of Corn and Cattel, the Country produceth divers rich Commodities; as *Wines*, *Oils*, several *Mettals*, *Rice*, *Cork*, *Soda Barrellia*, *Shumack*, *Soap*, *Anchoves*, *Hony*, *Wax*, *Woad*, *Coriander*, *Saffron*, *Anniseeds*, *Raisins*, *Almonds*, *Oranges*, *Lemmons*, *Liquorice*, *Wool*, *Lamb-skins*, *raw Silk*, &c.

Its Commodities.

Spain received its first People from *Celtes*, whence came the name of *Celtiberi*; then the *Phœnicians* and *Carthaginians* possessed the most Southern parts nearest to *Africa*, and endeavoured to make themselves Masters of all the Country. The *Romans* drove them out, and posset it wholly, and in the declension of their Empire, the *Goths*, *Vandals*, *Sueves*, *Alains* and *Silinges* setled here, and parted it amongst them. The *Goths* in the end remained sole Masters, till such times as the *Moors* vanquished them, and forced them to retire to the Mountains of *Leon*, the *Asturias*, and *Gallicia*. The People now inhabiting in *Spain* are of a swarthy complexion, black hair'd, and of a good proportion; they are very stately in all their Actions, of a Majestick gate, in their carriages are very grave and serious; to their King are very obedient, true and loving; in Adversity, patient; they are much addicted to Women; are great braggers, and exceeding proud, though scarce Masters of a single *Ryal*. In matters of Religion, they are *Roman Catholicks*, in which they are very devout, not admitting the publick exercise of any other Religion throughout the Kingdom.

The several Inhabitants.

Spain is divided into fourteen Kingdoms or Principalities, which are set down in the *Geographical Table* of the said Kingdom; and to these fourteen Principalities, we may add the Isles of *Baleares*, seated in the *Mediterranean Sea*, which comprehendeth *Majorca*, *Minorca*, and *Tvisa*: and all these Kingdoms have formerly been reduced into three *Estates*, which they call, *Castile*, *Arragon*, and *Portugal*. But to proceed to its several parts.

LEON,

Kingdom of *Leon.*

LEON, called by some the Kingdom of *Leon* and *Oviedo*, hath for its chief places, 1. *Leon*, by some called *Legio*, as supposed that the eleventh *Legion* quartered here, which was called *Legio Germanica*: 2. *Avilez*, seated on the Sea-shoar: 3. *Salamanca*, of note for having the most famous Academy of all *Spain*: 4. *Astorga*; and 5. *Placentia*.

Kingdom of *Castile.*

CASTILE, severed into the Old and the New, or first and last gained or conquered from the *Moors*. The Old *Castile* is seated Northwards of the New, and hath for its chief places, 1. *Burgos*, famous, as contending with *Toledo* for the primacy of all *Spain*: 2. *Valladolid*, a neat and fair City and a University, honoured with the Birth-place of King *Philip* the *Second*, who erected a Colledge for the *English Papistical Fugitives*. 3. *Numantia*, famous for defending it self against the *Romans* for fourteen years, and at last left *Scipio* nothing else, but a mile of Ashes for his Triumph, and 4. *Segovia*, a place of note for Clothing here made. The New *Castile* boasts of *Madrid* for its chief place, though but a Village, but is the greatest in all the World, and may compare with many Cities in *Europe*; and its Territory, although neither pleasant nor abundant, yet is made both by the residence of the Kings of *Spain*. 2. *Toledo* seated on the *Tagus*, and almost in the heart of all *Spain*; a fair City, beautified with stately Edifices; its Walls are strong, whereon are placed about fifty Towrs of Stone: It is honoured with a University, famous for the study of the *Civil* and *Canon Laws*. 3. *Alcantara*, of note for its Order of *Knights*, so called. 4. *Alcala de Henares*; dignified with an University: And 5. *Cuenca*, seated at the Spring-head of the *Xucar*, nigh to which is the stately Palace of the *Escurial* or St. *Laurence*, built by King *Philip* the *Second*; a place of such magnificence, that neither times past came near it, nor present doth equal it. In this large and stately structure are Eleven several *Quadrangles*, every one incloistred, all expressing a *Peruvian Treasure* to have been spent in the building them; and is of such beauty and magnificence, that a voyage to *Spain* were not lost to see it.

Kingdom of *Navar.*

NAVAR, for Antiquity may claim the second place of all the fourteen Kingdoms; It hath for its Eastern bounds the *Pyrenean Mountains*. Its chief places are, 1. *Pamplona*, a place more famous for her *Fortification*, than her *Negociation*: 2. *Viana*, once the Title of the Prince of *Navar*, near which *Cesar Borgia* was slain by an *Ambush*; 3. *Estella*; 4. *Tudela*; 5. *Olite*; and 6. *Sanguesa*; all good Cities. This Country was one of the first, that with success opposed the *Moors*.

Seignory of *Biscay.*

BISCAY, by reason of its Mountainous and Woody situation, is the only Countrey of all *Spain*, that remained unconquered by the *Moors*; and for its many *Iron-Mines*, is called the *Armory* of *Spain*. The chief places are, 1. *Bilboa*, a Town of great Trade, Riches, and much frequented by Merchants, seated two miles distant from the Ocean, and aboundeth in *Wines*, *Cattle*, and the best Blades, known by the name of *Bilboa-Blades*. 2. St. *Sebastian*, another noted Town for Traffick: 3. *Andero*, all Sea-port Towns; 4. *Victoria*; and 5. *Tolosetta*; Cities of some account.

Kingdom of *Asturie.*

ASTURIE, or *Oviedo*, hath for its chief place, *Oviedo*; which gave name to the Territory, which conjoyns with that of *Leon*.

Kingdom of *Gallicia.*

GALLIGIA, a Mountainous Countrey, like *Asturie*; hath for its chief places, 1. St. *Jago de Compostella*, or St. *Jago*, in honour of St. *James*, who here lieth interr'd; it is honoured with the See of an *Archbishoprick*, and an *Universsity*; and in one of the Churches are kept the Relicks of St. *James*, which are much reverenced: 2. *Bajona*, seated at the Mouth of the River *Minius*: 3. *Coronna*, not far from the Promontory of *Nerius*: 4. *Mondonnedo*; 5. *Lugo*; and 6. *Tuy*, seated on the River *Minho*.

The

The Kingdom of PORTUGAL.

This Kingdom of *Portugal*, as united with that of *Algarve*, and divided from the Dominions of *Castile*, contains the Kingdoms of *Portugal* and *Algarve*. It enjoyeth a sweet and healthful Air; for most part is hilly, and not very grateful to the Husbandman; but that defect is recompenced by their abundance of *Wine*, *Oil*, *Fruits*, *Hony*, *Fish*, *White Marble*, *Salt*, *Allom*, &c. which are the product of the Country. Its Commodities.

This Kingdom is about 320 Miles in length, and about 120 in breadth; in which compass are said to be about 1460 *Parishes*, and many *Nunneries* and *Religious Houses*. Its *fruits* are excellent, by reason of which here are abundance of *Confectioners*: It is well watered with *Rivers*, having near 200 great and small, the chief of which is the *Tagus*. Extent. Number of Parishes.

The People are esteemed more honest, plain, and of a simpler behaviour than the rest of *Spain*, and more devout in matters of Religion. Its People.

The chief Places in this Kingdom are 1. *Lisbona*, said to be built by *Ulysses* in his ten years Travels, seated on the *Tagus* convenient for Navigation, and of a great resort and trade; it is in compass about seven miles, in which may be numbred about twenty thousand well built Houses, and hath thirty and odd *Parish Churches*; and on its Walls are about sixty *Turrets* and *Towers*, which renders a pleasing shew to the Beholders; towards the Continent, it is seated on five small Hills, betwixt which is a Valley which runs down to the River *Duero*, whose entrance is defended by a *Castle*: and this City being the *Metropolis* of the Kingdom, is the residence of the Kings of *Portugal*, and the See of an *Archbishop*. 2. *Braga*, once the chief of the Kingdom, now dignified with the See of an *Archbishop*. 3. *Miranda*, seated on the *Duero*, an *Episcopal See*. 4. *Santaren*, seated on the *Tagus*. 5. *Sintra*, upon the main *Athantick*, at the end of high Mountains; which for the pleasure of the Woods here adjacent, as also for the refreshings which come from the Sea, is the usual retirement of the Kings of *Portugal* in the heat of Summer. 6. *Coimbra*, seated on the River *Mondego*, of a pleasant scituation, being amongst *Vineyards* and Woods of *Olives*, dignified with an *Episcopal See*, and a famous *University*. 7. *Porta*, seated at the mouth of the *Duero*, now called *Portuport*, a Town of good Trade, and affords an excellent strong Wine. 8. *Braganza*; 9. *Lamego*; 10. *Guarda*; 11. *Evora*; 11. *Portalegre*; and 13. *Leiria*.

South of *Portugal* is *ALGARVE*, which was united by the Marriage of *Alphonso*, the Third of *Portugal*, who had it in Dowry with his wife *Beatrix*, Daughter to *Alphonso* the Fourth of *Castile*, and Tenth of *Leon*. Its chief places are, 1. *Pharo*, a *Port-Town* towards the Streights of *Gibraltar* and *Silvia*, anciently the Seat of its Kings within Land. The utmost end of this Country, is called the *Cape* of St. *Vincent*, because the Bones of St. *Vincent*, which the *Christians* kept sacred, were by the *Saracens* (the then Masters of the Country) burnt and scattered about the Earth.

This Kingdom of *Portugal* is much coveted by the King of *Spain*, who esteems it the chiefest *Pearl* of his Cabinet, and as the chiefest *Flower* in his Garland; and which to regain, he hath oft times waged War against them, but to no purpose.

Kingdom of *Andalousia.*

ANDALOUSIA, the most rich and fruitful Country in all *Spain*, and well watered with *Rivers*: It hath on the East and South, *Granada* and the *Sea*, and adding the Country of *Estremadura*, it reacheth Northwards to the *Castiles*. The chief Places are, *Sevilla*, or *Sevil*, the most beautiful of all this Continent: It is in compass six Miles, and environed with stately Walls, and adorned with no less magnificent Buildings, as *Palaces*, *Churches*, and *Monasteries*. It is severed in two parts by the River *Batis*, which are

joyned together by a ſtately *Bridge*. From this place the *Spaniards* ſet forth their *Weſt-India Fleet*, and do hither return to unlade; and the Trade of this City is of that greatneſs that ſome have dared to ſay, that the *Cuſtoms* are worth to the King of *Spain* the yearly Revenue of about half a Million of *Gold*; and indeed this City, and *Lisbon* in *Portugal*, may be ſaid to be the chief Cities for Trade in this Continent; this for the *Weſt-Indies*, and *Lisbon* for the *Eaſt*. It is dignified with a flouriſhing *Univerſity*, and the *See* of an *Archbiſhop*, whoſe Revenue is ſaid to be 100000 *Crowns* yearly, and is eſteemed the next to him of *Toledo*. In this City are ſaid to be kept 30000 *Genets* for the ſervice of the King of *Spain*, which are ready upon all occaſions. And here reſteth the body of *Chriſtopher Columbus*, famous for his *Navigations* and *diſcoveries* of the *New World*: 2. *Cordova*, once the Royal Seat of the *Mooriſh Kings*; from hence cometh that excellent *Cordovant-Leather*. Not far from this City was fought that famous Battle between *Cæſar* and the Sons of *Pompey*, where *Cæſar* gained the day, and made an end of the Civil Wars. 3. *Marchena*, famous for its *Genets*. 4. *Medina Sidonia*, whoſe *Duke* was General of the *Invincible Armado*, in *Anno* 1588. 5. *Xéres de la Fontera*, a Sea-port Town, from whence comes our *Sherry Sack*: and 6. *Cadiz*, ſeated in an Iſle below *Sevil*, a Colony of the *Carthageniens*.

Country of *Eſtremadura*.

ESTREMADURA, whis is part of *Andalouſia*, hath for its Chief places, 1. *Merida*, built and made a Colony by *Auguſtus*; and 2. *Guadalcanal*, famous for its Mines of *Silver*.

Kingdom of *Granada*.

GRANADA, bounded on the South with the *Mediterranean Sea*: Its Chief places are *Granada*, a ſtately City, where is yet to be ſeen the Palace of the *Mooriſh Kings*, indented with *Moſaical work*, and guilt; its Buildings are of *Freeſtone*, fenced about with a ſtrong Wall, on which are 130 *Turrets*. It is an Inland Town, yet famous for being the reſidence of the *Parliament*, and Court of *Juſtice* for all the Southern parts of *Spain*, as *Valadolid* is for the North. 2. *Malaga*, a famous *Sea-port Town* ſeated on the *Mediterranean*, abounding in *Raiſins*, and a rich Wine called *Malaga Sack*. 3. *Almeria*, ſeated on the *Sea-ſhoar*.

This Country was the laſt that the *Moors* were expelled out of, which may be attributed to its barrenneſs, and being ſo Mountainous.

Kingdom of *Murcia*.

MURCIA, bounded on the Eaſt with the *Mediterranean Sea*, a fertile Country, and well ſtored with *Fruits*: Its Chief places are, 1. *Alicant*, ſeated on the *Mediterranean*, where it enjoyeth a commodious road for *Shipping*, is a place well frequented, enjoyeth a good Trade, and affordeth for *Merchandize* great quantities of excellent *Wines*, and ſeveral good *Commodities*. 2. *Cartagena*, ſeated alſo on the *Mediterranean Sea*, built by *Aſdrubal* of *Carthage*, at preſent one of the moſt famous Havens in *Spain*: and 3. *Murcia*, which takes its name from the *Country*, a City of good account.

Kingdom of *Navarre*.

ARRAGON, divided in the midſt by the River *Iberus*; the Chief places are, 1. *Caragoſa*, or *Saragoz*, ſeated on the *Iberus* or *Ebro*, anciently called *Cæſar Auguſtus*, by whom it was firſt founded: It is a famous *Univerſity*, and once the Seat of the *Mooriſh Kings*. 1. *Lerida*, ſeated on the River *Cinga*, which hath its Spring-head in the *Pyrenæan Hills*; it is an *Univerſity*. 3. *Hueſca*, alſo an *Univerſity*. 4. *Moſons*, which gives entertainment to the King of *Spain* every third year, at which time the People of *Arragon*, *Valentia*, and *Catalonia*, make the King a Preſent of 600000 *Crowns*; and this is all the *Taxes* or *Moneys* they pay to the King for three years. 5. *Jacca*; 6. *Borio*; 7. *Galajud*; and 8. *Daroca*.

CATA-

Kingdom of *Catalonia*.

CATALONIA, near the *Pyrenæan* Mountains on the North; Its chief places are, 1. *Barcelona*, ſeated on the *Mediterranean ſhoar*, a place of good ſtrength and Antiquity, being built out of the ruins of *Rubicata*, an old Colony of the *Africans*, and now dignified with the Seat of the Vicegerent. 2. *Girona*, ſeated on the River *Bætulus*, the ancient Seat of the *Arragon* Princes.

Kingdom of *Valnet*.

VALENCE, or *VALENCIA*, encompaſſed with *Murcia*, *Caſtile*, *Arragon*, and the *Sea*. Its chief places are, 1. *Valencia*, ſcituate near the mouth of the River *Guadalangar*, and about two miles from the *Sea*, where there is an open, but ill commodious road for *Ships*, called *la Greno*; yet, as being the chief City in the Country, enjoyeth a good Trade. Here is an Univerſity in which St. *Dominic*, the Inſtitutor of the *Dominican Order*, ſtudied: 2. *Morvedre*; 3. *Segobre*; and 4. *Zativa*.

The BALEARE ISLES.

The *Iſlands* of the *Baleares*, or Kingdom of *Majorca*, comprehend that of *Majorca* and *Minorca*, both ſeated in the *Mediterranean Sea*.

Iſland of *Majorca*.

MAJORCA, about ſixty miles from *Spain*; It is about 300 miles in circuit, and hath for its chief places, *Majorca*, where there is a Univerſity; and *Palomera*, which gave birth to *Raymundus Lullius*.

Iſle of *Minorca*.

MINORCA, diſtant from *Majorca* nine miles, and is about half the extent of *Majorca*. Its chief place is *Citadelli*, and its chief Port, *Mahon*, which is very large and commodious. Theſe *Iſles* are indifferent fertil in *Corn*, *Wine*, and *Oil*, which are three good Commodities.

Nigh to theſe *Iſles* are two other ſmall ones;

Iſle of *Ivisa*.

IVISA, or *Ebuiſa*, of about 150 miles in circuit, whoſe chief place is ſo called, and its Port is *Magno*. The chief Commodity which it affordeth is *Salt*, of which here is made a great quantity. And about ten miles from this *Iſle* is the other, called *PORMENTERA*, which is about fifty miles in circuit. The People are excellent Swimmers, as well the *Women* as the *Men*.

Iſle of *Formentara*.

The *Air* of the whole Country of *Spain* is generally good and healthful, and the Soil fertil enough, were it well cultivated; but the thinneſs of its *Inhabitants* ſince their ſetling in *America*, is the chief cauſe thereof.

The whole Country is *Catholick*; It hath 11 *Archbiſhops*, 56 *Biſhops*, 20 or 25000 *Pariſhes*, and abundance of very rich *Abbeys* and *Monaſteries*.

Chief Rivers in *Spain*.

In *Spain* are five great *Rivers*, *viz.* the *Douro*; the *Tagus*, or *Tago*; the *Guadiana*; the *Guadalquiver*; and the *Ebro*, or *Iberus*. The *Douro* is eſteemed for force, the *Tagus* for its renown, the *Guadalquiver* for its riches, the *Ebro* for its name, and the *Guadiana*, not having wherewith to anſwer the others (for ſhame) hides it ſelf under ground.

Chief Hills in *Spain*.

The chief *Hills* in *Spain*, are *Seir Morena*, being a chain of *Hills*, declining from the midſt of *Spain* towards the Streights of *Gibraltar*; and upon theſe Hills it was, that *Cervantes*, the Wit of *Spain*, made the Scene of the many Warlike exploits, atchieved by the flower of Knight Errantry, *Don Quixot de la Manche*. 2. *Inbalda*, or *Idubalda*, which extends it ſelf from the *Pyreniæ* towards *Portugal*: And 3. *Seira Nevada*, which from Eaſt to Weſt croſſes *Granada*, and are very high Hills.

ITALY ought to be confidered in three or four principal Parts, which ſhall be thoſe of

LOMBARDY, which may be divided into the

Higher; where are the Eſtates of

PIEDMONT, which belongs to the Dutchy of SAVOY, and comprehends the
- Dutchy of Aoſt, — Aoſte.
- Signiory of Vercell, — Vercelli.
- Principality of Piedmont, — Turine.
- County of Aſt, — Aſti.
- Marquiſate of Saluce, — Saluzzo.
- County of Nice, — Nizza, or Nice.

MILLAIN, which comprehendeth the
- Dutchy of Millan, — Millan.
- Lake of Como, — Como.
- Lodeſan, — Lodi.
- Cremonoe, — Cremona.
- Paveſe, — Pavia.
- Tortoneſe, — Tortona.
- Alexandrin, — Alexandria.
- Laumelline, — Valence.
- Novareſe, — Novara.

GENES, or GENOA, which is divided in
- The Eaſtern River, — Genoa, Serzana.
- The Weſtern River, — Savona, Arbengue, Vintimiglia.

MONTFERRAT,
- To the Duke of Mantoua, — Alba.
- To the Duke of Savoy, — Tyra.

Lower; where are the Eſtates of

The REPUBLICK of VENICE, which poſſeſſeth the Provinces or Parts of
- Bergamaſe, — Bergame.
- Cremaſe, — Crema.
- Breſſan, — Breſcello.
- Veronois, — Verona.
- Vicentin, or Vicentinois, — Vicenzo.
- Padouan, — Padoua.
- Poleſine de Rovigo, — Rovigo.
- Coaſt of Treviſane, — Trevigi.
- Feltrin, — Feltri.
- Bellunois, — Belluno.
- Cadorin, — Cadore.
- Friouli, — Cuidad de Auſtria, Aquileja.
- Iſtria, — Palma la Nova, Cabo d'Istria.
- Dogado, or Dutchy of — Venice.

MANTOA, — Dukedom of Mantoua.

PARMA, and PLACENZA, — Dukedom of Parma, Dukedom of Placenza.

MODENA, and REGGE, — Dukedom of Modena, Dukedom of Regge.

TRENT, — Biſhoprick and County of — Trent.

In the one and the other Lombardy, are divers ſmall Eſtates, among the which is — Mirandola.

The Eſtates of the CHURCH,

Towards the Gulph of Venice; as
- Dukedom of Ferrarſe, — Ferrara.
- Bolognois, — Bologna.
- Romandiola, — Ravenna.
- Dutchy of Urbin, — Urbin.
- Coaſt of Ancone, — Ancona.

Towards the Tyrrhenian Sea; as
- County of Perufin, — Citta di Caſtello, Perugia.
- Ombria, or the Dutchy of — Spoleto, Orvieto.
- Orvietin, — Narni.
- Terre Sabine, — Veij.
- St. Peters Patrimony, — Rome, or Roma.
- Campagna di Roma, — Caſtro.

Among the Eſtates of the Church, are
- Dutchy of Caſtro, — St. Marino.
- Republick of St. Marino.

The Eſtates of TOSCANY,

To the Great DUKE of TOSCANY,
- Florence, — Florence.
- Sanaſe, or Siennois, — Sienni.
- Piſan, — Piſe, Livourne, or Ligorne.

To divers Princes; as the
- Republick of — Lucque.
- Principality of — Alaſſe.
- Signiory of — Piombine.
- Iſle of Elbe, — Coſmopoli.

The Kingdom of NAPLES, wherein divided is

TERRA di LAVARO. — Naples, Gaiete.

CALABRIA. — But at preſent into twelve Provinces, whereof are

Six towards the Tyrrhenian Sea, to wit,
- Terra di Lavora, — Naples, Gaiete.
- Principato citra, or Interiour, — Amalfi, Salerno.
- Principato ultra, or Exteriour, — Benevento, Conza.
- Calabria citra, — Coſenza.
- Calabria ultra, — Regium, Cirenza.
- Baſilicate, — Otranto, Brundufium, Gallipoli, Brindiſi.

PUGLIA.
- Terra di Otranto,
- Terra di Bari, — Bari.
- Capitanate, or Pugi, — Manfredonia, Mont St. Angelo.
- Contey of — Molife.

Six towards the Gulph of Venice, to wit,
- Abruzzo citra, or Interiour — Lanciano, Sulmona.
- Abruzzo ultra, or Exteriour, — Civita di Chietti, Civita di Penna, Aquila.

ABRUZZO.

And to which, for the fourth part, may be added,

The Iſles and Kingdoms of
- SICILE, or SICILY, — Meſſina, Palermo, Siracuſa, Montreale, and Catalia.
- SARDAGNE, or SARDINIA, — Cagliari, Boſa, and Saſſari.
- CORCE, or CORSICA, — Baſtia, Mariana, and Calvi.

Together with ſeveral ſmall Iſles, as thoſe of Naples, Liguria, &c. ſome of which are taken notice of in the Deſcriptional part.

The

The Eſtates of the DUKE of SAVOY, are

On this ſide the ALPES, to wit,

The DUTCHY of SAVOY, where there are the Provinces of
- Genevois, — Annecy, la Roche, Alby, Thonnon, Vieux.
- Fauſſigni, — Cluſe, Bonneville, Bonne, Sallanche, Taniage.
- Chablais, — Thonon, Evian, St. Gingot.
- Savoy, — Chambery, les Echelles, Montmelian, Aygnebelle, Conflans, Beaufort, Ugice, Miolans, Aix, and Rumilly.
- Tarentaiſe, — Monſtiers, St. Jaqu'Eſme, le bourg St. Morice.
- Morienne, — St. Jaan de Morienne, la Chambre, Modane, Lasheboug.
- And Beugey, in part, — Yenne, St. Genis d'Hoſte.

The COUNTY of NICE; where are the Vicarats of
- Nice, or Nizza, — Nice, or Nizza, Ville Franche.
- Poget, — Poget.
- Barcellonnette, — Barcellonnette, le Lauret.
- Soſpelle, — Soſpelle, Saorgia.

And the
- Val St. Eſteve, — St. Eſteve, St. Salvador.
- Counte of Boglio, or of — Beuil.

Dutchy of Aoſte, — Aoſte, Caſtillion, Bard.

Marquiſate of Yvree, — Yvree, Pont, St. Martin.

Signiory of Vercell, — Vercelli, Creſcentin, Borzane, Biele, Andorne, Gartinara.

Marquiſate of Suze, — Suze, Avillane.

PIEDMONT; under the name of which is underſtood, the

Principality of Piedmont, — Turin, or Turiño, Mondeuj, Foſſan, Chivas, Rivoli, Javen, Carignan, Pancalier, Vigon, Cavour, Ville franque, Raconis, Savillan, Conſ, Tende, Ceve, Cortemille, Bene, Quieraſt, Quiers, Moncaller, Cocconas, Verue.

Beyond the ALPES; to wit,

Counte of Aſt, — Aſti, Ville neuve d'Aſt.

Marquiſate of Saluce, — Saluce, or Saluzzo, Carmagnole, Barges, Revel, Droners, Cental, Rocqu'Eſparviere, Demont.

Quarter of Piedmont, or at preſent belonging to Frasne, — Pignerol, Perouſe, Lucerne, Brigueras.

The DUTCHY of MONFERAT, On the Coaſt of GENES, — In part, where are — Albe, Trin, and Aqui. — The Marquiſate of — Oneglia, Marro.

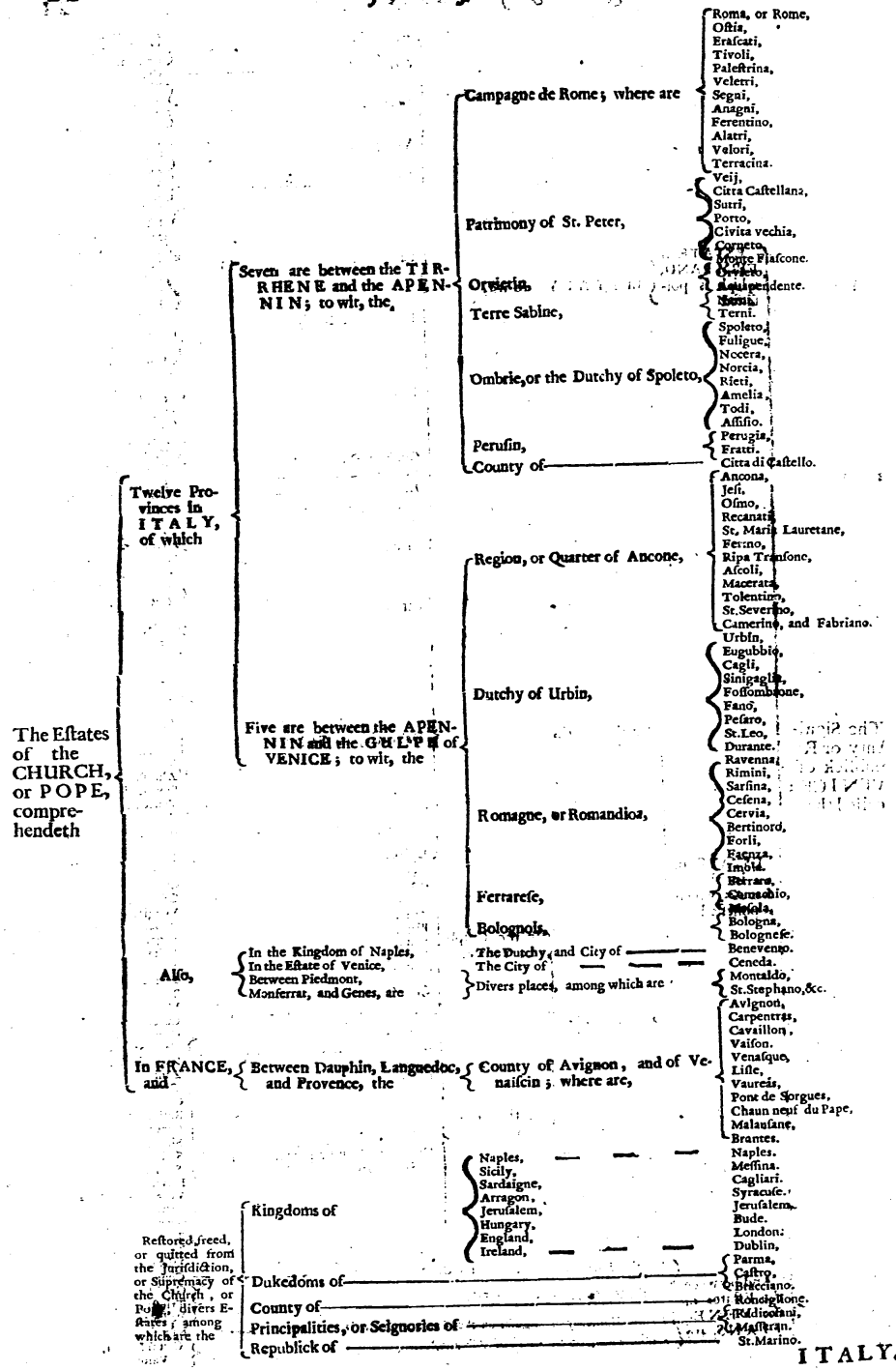
In PIEDMONT, reſerved from the Church, the Principality of — Maſſeran, Geneve, Chypre, &c.

The DUTCHY of SAVOY pretendeth to

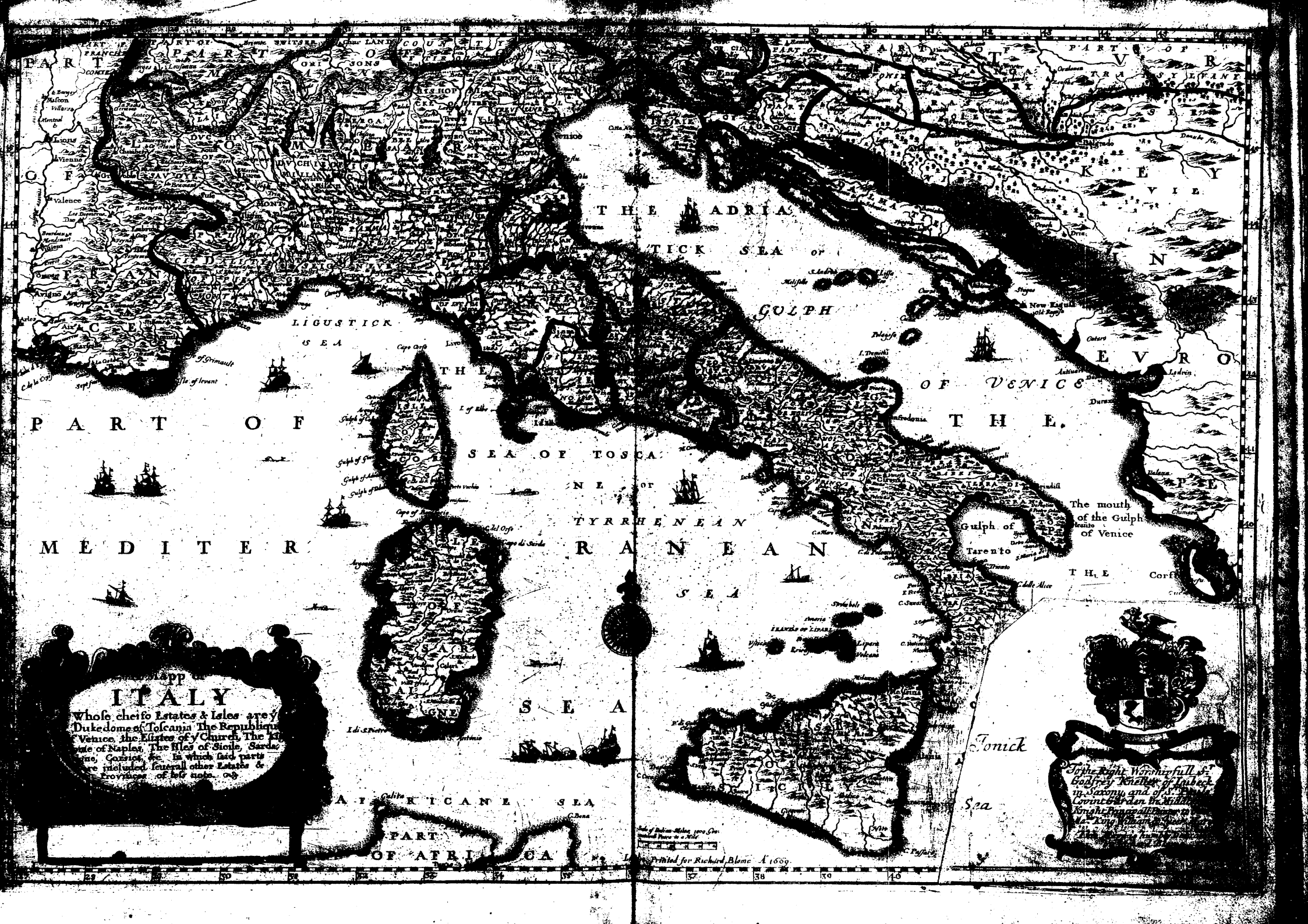
LOM-

- LOMBARDY, which may be divided into the
  - Higher, and comprehendeth the Estates of
    - PIEDMONT, as it belongs to the Duke of Savoy; where are the
      - Principality of Piedmont
        - Dutchy of Aoſt — Aoſte, Ivree.
        - Seigniory of Verceili — Verceili.
        - Turin, Foſſan, Mondevi, or Mondoui, Suze, Savillan, Coni, Quieraſe, Quiers.
      - County of Aſt — Aſti.
      - Marquiſate of Saluce — Saluce, or Saluzzo, Carmagnole.
      - County of Nice — Niza, or Nice, Barcelonnette.
    - MILLAN, as it belongs to the Catholick King; where are the
      - Dutchy of Millan — Millain.
      - Val de Ugogne — Domo d'Oſola.
      - Lake of Como — Como.
      - Novareſe — Novare.
      - Vigevanaſe — Vigevan.
      - Lodeſan — Lodi.
      - Paveſe — Pavia.
      - Laumelline — Valence.
      - Alexandrin — Alexandria de la Paille.
      - Tortoneſe — Tortona.
      - Cremoneſe — Cremona.
    - GENES, or GENOA, a Signiory and Republick; which is divided into
      - Eaſtern River — Genoa, or Genes, Sarzana.
      - Weſtern River — Vintimiglia, Arbengue, Savona.
    - The Dutchy of MONFERRAT; as it belongs
      - To the Duke of Mantoua — Alba, Aqui.
      - To the Duke of Savoy — Trin, Caſan.
    - In Piedmont appertaineth
      - To the French — Pignerol.
      - To its peculiar Prince — Maſſeran.
    - In the Eſtate of Millain, appertaineth
      - To the Swiſſes — Lugari, Locarne, Bellinzone.
      - To the Griſons — Churcoire, Chiavenna, Sondrio, Bormio.
    - In the Eſtate of Genes, or Genoa, appertaineth
      - To his peculiar Prince — Monazo, or Mourgues.
      - To the Duke of Savoy — Oneglia.
      - To the Catholick King — Finale, Pontremoli.
    - Between Piedmont, Monferrat, &c. — To the Pope, or Church — Montaldo, &c.
    - The Signiory and Republick of VENICE; where are
      - Bergameſe — Bergame.
      - Cremaſe — Crema.
      - Breſſan — Breſſia.
      - Veronois, or Veroneſe — Verona.
      - Vicentin, or Vicentinois — Vicenza.
      - Padouan — Padoua.
      - Polêſine de Rovigo — Rovigo.
      - Dogado, or Duchy — Venice, or Venetia, Chiogia, Caorla, Torcello, Murari.
      - Coaſt of Treviſane — Trevigi.
      - Feltrin — Feltri.
      - Bellunois — Cuidad de Bellune.
      - Cadorin — Pie di Cadore.
      - Friouli — Cuidad de Auſtria, Aquileja, Cuidad de Friouli, Concordia, Palma la Nova.
      - Iſtria — Cabo d'Iſtria, Citta Nuova, Parenzo, and Pola.
  - Lower, and comprehendeth the Eſtates of
    - MANTOUA, to his Dukedom that of Mantoua — Mantoua, Viadana, Goito.
    - MODENE, and REGGE, &c. to their Dukedoms
      - Dukedom of Modene — Modene.
      - Dukedom of Regge — Regio, or Regge.
      - Principality of Carpi — Carpi.
      - Signiory of Carfagnan — Caſtelnove de Carfagnan.
    - PARMA and PLACENZA, to their Dukedoms
      - Dukedom of Parma — Parma.
      - Dukedom of Placenza — Placenza.
    - TRENTE, to his Biſhoprick; where are — Trent, Bolzan, Ceneda.
    - In the Signiory of Venice, appertaineth
      - To the Pope, or Church — Goricc, Trieſte, Pedena.
      - To the Houſe of Auſtria
    - In the Eſtate of Mantoua, are to their Lords
      - The Dukedoms of — Guaſtalle, Sabionete.
      - The Counties of — Bozolo, or St. Martin, Caſtillon della Seivete.
    - Between the Eſtates of Mantoua and Modene, are
      - The Dutchy of — Mirandola.
      - The County of — Novelcare.
    - In the Eſtate of Modene, and to the Duke of Modene, are — The Signieuries of — Correge, Saſſuol.
    - In the Eſtates of Parma, to their particular Princes, are
      - The Eſtates of Palavicin — Bourg St. Domino.
      - The Eſtate of Landi — Bourg val di Taro.

- The Signiory or Republick of VENICE; called the
  - ESTATE of FIRM LAND, which is poſſeſſed In ITALY; to wit,
    - Bergamoſe — Bergamo, Martinengo, Chuſon.
    - Cremaſe — Crema.
    - Breſſan — Breſſia, Salo, Azola, Orſi Nuovi.
    - Veronoiſe — Verona, Peſchiera, Legnago.
    - Vicentin, or Vicentenois — Vicenza, Lonigo.
    - Padouan — Padoua, Eſte, Montagnana, Caſtel Baldo, Monſelice, Campo St. Petro, Citadella, Pieve di Sacco.
    - Poleſine de Rovigo — Rovigo, Adria.
    - Dogado — Venice, or Venetia, Chioggia, Caorla, Torcello, Grado, Murano, Marano, Maeſtre.
    - Coaſt of Treviſane — Trevigi, Serravalle.
    - Feltrin — Feltri.
    - Bellunoiſe — Cuidad de Bellune.
    - Cadorin — Pieve di Cadore.
    - Friouli — Cuidad de Auſtria, Aquileja, Palma la Nova, Cuidad de Friouli, Concordia, and Chiuſa.
    - Iſtria — Capo d'Iſtria, Citta Nuova, Parenzo, Pola, St. Juan de Duino.
    - Dalmatia, or Eſchavonia — Nona, Zara, Novigrad, Tina, Sebenico, St. Nicolo, Traw, Spalato, Salona, Almiſſa, Starigrad, Veſicchio, Cataro, Budua, Dolcigno.
    - Epire — Torre de Butrinto, Perga.
  - ESTATE of or in the SEA; which is poſſeſſed
    - On the Coaſts of
      - Chergo — Cherſo.
      - Offero — Oſſero.
      - Veggia — Veggia.
      - Arba — Arba.
      - Pago — Pago.
      - Solta — Solta.
      - Brazza — Negreſi.
      - Leſina — Leſina.
      - Torta — Torta.
      - Iſſa — Meo.
      - Curzo — Curzo.
    - And the Iſles
      - In the Gulph of Venice
        - Corfu — Corfu, Cape St. Angusto.
        - Zephalonia — Zephalonia.
        - Zante — Zante.
        - Cerigo — Capſali.
      - Of the Levant
        - Crete, or Candia; now the Grand Seignors — Candia, Retimo, Canea, Sittia, Suda, Spinalonga, Belvidere, Verapolo, Caſtel Theodoro, Grabuſo.
        - Teno — Turluru, Teno.
        - Micone — Micone.
  - And between the Eſtates of the VENETIANS, are
    - To the Pope, or Church, on the Coaſt of Treviſane — Ceneda.
    - To the Houſe of Auſtria, in Friouli and Iſtria — Gradiſca, Trieſte, Pedena.
    - To the Signiory of Raguſa, on the Coaſt of Dalmatia — Raguſa.
    - To the Turk, on the Coaſt of Albania, &c. — Caſtal Nuova, la Valona.


The Eſtates of the CHURCH, or POPE, comprehendeth
Twelve Provinces in ITALY, of which
Seven are between the TIRRHENE and the APENNIN; to wit, the,
Campagne de Rome; where are
Roma, or Rome,
Oſtia,
Eraſcati,
Tivoli,
Paleſtrina,
Velletri,
Segni,
Anagni,
Ferentino,
Alatri,
Velori,
Terracina.
Patrimony of St. Peter,
Veij,
Citta Caſtellana,
Sutri,
Porto,
Civita vechia,
Corneto,
Monte Fiaſcone.
Orvietin,
Orvieto,
Toscanella,
Nepi,
Civita Castellana.
Terre Sabine,
Spoleto,
Fuligne,
Nocera,
Norcia,
Rieti,
Amelia,
Todi,
Aſſiſio.
Ombrie, or the Dutchy of Spoleto,
Perugia,
Eratti.
Citta di Caſtello.
Perusin, County of
Five are between the APENNIN and the GULPH of VENICE; to wit, the
Ancona,
Jeſi,
Oſmo,
Recanati,
St. Maria Lauretane,
Fermo,
Ripa Tranſone,
Aſcoli,
Macerata,
Tolentino,
St. Severino,
Camerine, and Fabriano.
Region, or Quarter of Ancone,
Urbin,
Eugubbio,
Cagli,
Sinigaglia,
Foſſombrone,
Fano,
Peſaro,
St. Leo,
Durante.
Dutchy of Urbin,
Ravenna,
Rimini,
Sarſina,
Ceſena,
Cervia,
Bertinoro,
Forli,
Faenza,
Imola.
Romagne, or Romandiola,
Ferrara,
Comacchio,
Argenta,
Bologna,
Bolognese.
Ferrareſe,
Bolognois,
Also,
In the Kingdom of Naples,
In the Eſtate of Venice,
Between Piedmont,
Monferrat, and Genes, are
The Dutchy, and City of
The City of
Divers places, among which are
Benevento.
Ceneda.
Montaldo,
St. Stephano, &c.
In FRANCE, and
Between Dauphin, Languedoc, and Provence, the
County of Avignon, and of Venaiſcin; where are,
Avignon,
Carpentras,
Cavaillon,
Vaiſon.
Venaſque,
Liſle,
Vaureas,
Pont de Sorgues,
Chaun neuf du Pape,
Malauſane,
Brantes.
Restored, freed, or quitted from the Jurisdiction, or Supremacy of the Church, or Pope, divers Eſtates, among which are the
Kingdoms of
Naples,
Sicily,
Sardaigne,
Arragon,
Jeruſalem,
Hungary,
England,
Ireland,
Naples.
Meſſina.
Cagliari.
Syracuſe.
Jeruſalem.
Bude.
London.
Dublin.
Dukedoms of
Parma,
Caſtro,
Bracciano.
County of
Rondigliono.
Principalities, or Seignories of
Riddolfi,
Maſſeran.
Republick of
St. Marino.

ITALY.


PART OF FRANCE
PART OF SPAIN
PART OF TVRKY
THE ADRIATICK SEA or GULPH OF VENICE
LIGUSTICK SEA
SEA OF TOSCANE or TYRRHENEAN SEA
THE MEDITERRANEAN SEA
PART OF AFRICA
KEY VIE
EVRO
PEL
The mouth of the Gulph of Venice
Gulph of Tarento
THE Corfu
Ionick Sea
ITALY
Printed for Richard Blome A 1689


A Mapp of
ITALY
Whose cheifo Estates & Isles are ye
Dukedome of Toscania The Republique
of Venice the Estates of y Church, The Kin
dome of Naples, The Isles of Sicile, Sarda
igne, Corsica, &c. In which said parts
are included seuerall other Estates &
Provinces of less note.
To the Right Worshipfull Sr
Godfrey Kneller of Lubeck
in Saxony, and of St Pauls
Covint Garden in Middlesex
Knight Principall Painter to their
Ma.ties King William & Queen Mary
This Mapp is humbly Dedicated
by Richard Blome.
THE ADRIATICK SEA or GULPH OF VENICE
LIGUSTICK SEA
TYRRHENEAN SEA
MEDITERRANEAN SEA
AFRICANE SEA
PART OF ITALY
PART OF AFRICA
Venice
Belgrado
New Ragusa
Gulph of Tarento
The mouth of the Gulph of Venice
ILANDS OF LIPARI
Lipara
Volcano
Ld Elba
Ld S.Pietro
Ld S. Antonio
Cape of Bonifacio
Capo de Sarda
Cape Corse
Leghorn
Naples
Tarento
Messina
Palermo
Syracusa
Malta
Printed for Richard Blome

ITALY.

ITALY lies in the midst of the three most *Southern* parts of *Europe*; it is formed like a *Boot*, and washed on all sides by the *Sea*, *viz.* by the *Adriatick*, or Gulph of *Venice*, behind; by the *Tyrrhenian* before, and by the *Ionian* at the foot: only the top of the *Boot* is contiguous to *France* and *Germany*, from which it is parted by the *Alpes*.

The extent of the *Roman* Empire, before *Constantine* Ruled, and the division thereof, was accounted to be about 3000 Miles in length, to wit, from the River *Euphrates* Eastward, to the *Irish Ocean* Westward; and in breadth, from Mount *Atlas* Southward, to the *Danube* Northward, about 2000; which large extent was the cause of its ruine and declension. Extent of the *Roman* Empire.

The Ancient *Romans* were a gallant People, of a sound Judgment, and a ready Wit, well skilled in *Arts* and *Sciences*; very covetous of glory, of great Valour, as by their subduing the chief part of the *World*, who, contrary to the custom of *Invaders*, to sack and ruine Countries, they taught the People *Manners*, *Literature*, &c. The *Romans* were the first that wore the *Purple Robe*, and the beginners of *Triumphs*: they had excellent and stately *Theaters*, and it was held no disreputation to be an *Actor*. The Ancient *Romans*.

This Country is so exceedingly furnished with whatsoever may be found useful for Man, and the Soil so rich and fertile in *Grains*, *Fruits*, *Rice*, &c. in some places having three Harvests in one year, that it is esteemed the *Garden of the World*. The chief Commodities for *Merchandize* that this Country yieldeth, are *Silks*, both raw and wrought into several fabricks, as *Sattins*, *Taffities*, *Plushes*, *Velvets*, *Cloth of Gold* and *Silver*, *Damasks*, *Grograms*, *Rashes*, *Fustians*, *Glasses*, *Alom*, *Armour*, excellent *Wines*, *Oils*, *Saffron*, *Anniseeds*, *Aegum*, *Brimstone*, several *Metals*, *Olives*, *Almonds*, *Oaks*, *Kidskins*, *Lute-strings*, *Quicksilver*, *Aloes*, *Gold*, *Threads*, *Perfumes*, several *Drugs*, &c. Its fertility and Commodities.

The *Italians* are very ingenious, subtile, active and grave, exceeding malicious, if affronted; much addicted to *Women*, which are here allowed the liberty to make use of their own. They are generally very jealous of their *Wives*, so that they are denied the liberty of the Streets, as the common view or society of men. The *Women* are generally handsom, witty, and of a seeming modest behaviour, it is observed of them, that they are *Saints in the Church*, *Angels in the Streets*, *Magpies at a Door*, *Syrens in the Windows*, and *Goats in the Gardens*. Their *Language* is very eloquent. The People of *Italy*.

Italy may be considered in three principal parts, *Lombardy*, *Italy* particularly so called, and *Naples*; to which, for a fourth may be added the neighbouring *Isles*, in which said parts are divers *Cities* and *Universities*, all which are largely set down in the *Geographical Tables*; and of these parts in order. Its chief parts.

Of LOMBARDY.

LOMBARDY is a place of good account, hath a considerable Territory, beautified with well built Cities, with the convenience of navigable Rivers, and them large and well ordered Streets.

LOMBARDY.

Parts of *Lombardy*.

Lombardy is divided into the Higher and Lower; in the Higher are the Estates of *Piedmont*, which belongs to the Duke of *Savoy*; of *Millan*, which belongs to the *Catholick King*; of the Commonwealth of *Genes*, or *Genoa*; and of *Montferrat*, which belongs to the Duke of *Mantoua*; yet the Duke of *Savoy* hath some part thereof. And in the Lower *Lombardy* are the Estates of *Venice*, of *Mantoua*, *Parma*, and *Modena*, which have their Dukes; and of *Trent*, which hath its Bishop. And in the one and the other *Lombardy*, are several small Estates, amongst which is that of *Mirandola*.

The Estates of *PIEDMONT*, washed by the *Mediterranean Sea*, is exceeding fertil, though inferiour to other parts of *Lombardy*: It is divided betwixt the Dukes of *Savoy* and *Mantoua*, the River *Tener* separating their possessions. It is very populous, numbring about 160 walled *Cities* and *Towns*, of which the chief is *Turin*, which is the *Palace* and *Court* of the Duke of *Savoy*; it is also dignified with the See of an *Archbishop* and an *University*, where the famous *Erasmus* proceeded Dr. of Divinity. 2. *Aoste*, or *Avost*, seated on the Northern limits of the Country. 3. *Verceili*, a Town of great strength, bordering on *Millan*, to which it did once belong. 4. *Saluzzo*, a Marquisate and Bishops See. 5. *Nizza*, or *Nice*, a Sea-port Town, and serveth for *Turin*: and 6. *Asti*.

Chief places.

And since we have before omitted it, before we pass further let us repass the *Alpes*, and speak of the Territories of this Duke on this side, which is the Country of *Savoy*, from whence he bears his *Title*.

Country of *Savoy*.

SAVOY, adjoyning to *Piedmont*, is a Country very Mountainous and full of narrow passages, and consequently not very fertil. Its chief City is *Chambery*, or *Cambreria*, the residence of the Duke, when he is in these parts, seated in a pleasant Valley, amongst Mountains, which are well stored with beautiful Houses, belonging to the *Gentry* of these parts; and next *Turante*, which commands the passage into *Italy*. Its other places of account, are *Thonon*, *Cluse*, *Beaufort*, *Ugine*, *Montiers*, *Tenne*, *Modane*, &c.

The Dutchy of *MILLAN* is rich in Natures gifts, being seated in the best part of *Lombardy*, affording great plenty of *Grains*, *Wines*, *Oils*, and *Silks*, and is said to have the best *Rice* in the World. It hath for its chief places,

Chief places.

1. *Millan*, which notwithstanding its often spoils, is said to be the greatest City of all *Lombardy*. It is seated in a wide Plain, wherein are no less pleasant than profitable *Meadows* and *Rivers*; it is strongly fortified with a *Wall*, and a spacious and almost impregnable *Castle*, besides its *Fortifications*; it is beautified with many splendid Ornaments, the chief of which are its *University*; its *Hospital*, liberally endowed, seated in an Isle almost two miles in compass, and capable to give entertainment to about 4000 Sick persons. Its *Schools*, *Nunneries*, and *Churches*, which amount in all to 238; most of which are stately structures, and beautified with curious *Paintings*, *Images* of the *Saints*, *Sepulchres*, and several Religious *Antiquities*. The whole City is about seven miles in circuit, is exceeding populous, very rich, and of a great Commerce, affording sundry good Commodities. 2. *Pavia*, seated on the River *Tacinus* honoured with a famous *University*, of note for the Battel, in which *Francis* the first of *France* was taken Prisoner by the Emperour *Charles* the Fifth, who for his ransom was forced to release all his Title and interest to the Kingdom of *Naples*, and this Dutchy of *Millan*. 3. *Cremona*, seated on the banks of the *Poe*, first built in the beginning of the *Punick War*. It is a place of good account, hath a considerable *Trade*, beautified with well built *Houses*, with the conveniency of curious *Gardens*, and hath large and well ordered *Streets*.

Streets. It is of most note for its high *Tower* and *Cathedral Church*, where are to be seen many Relicks of *Saints*, and curious *Pictures*. 4. *Como*, seated on a Lake so called, which is about fifty miles in circuit, on which the *Citizens* use to recreate themselves in *Boats*; It is a City of good Antiquity, and here it was that both the *Plinys* were born. 5. *Alexandria*, which from a poor *Village* (through the often ruins of *Millan*,) is now become a fair, strong, and flourishing *Town*. 6. *Lodi*; 7. *Tortona*; 8. *Valenca*; and 9. *Novara*.

State of *Genoua*.

The State of *GENES*, or *GENOVA*, once very large, but at present possesseth only *Liguria* in the Continent, and the Isle of *Corsica*, of which we shall speak in place more convenient. The People are much addicted to *Traffick* and *Usury*, and here the *Women* are allowed the liberty of the *Streets*, as also to accompany or discourse with Men, which is forbidden them in other parts. Its chief places are, 1. *Genoua*, seated on the Sea-shoar, at the foot of high *Mountains* between two Rivers, built by *Janus*, the first Inhabiter of *Italy*; it is (as also its whole State) governed in form of a Republick. The *City* for its stately Buildings, makes it to be termed by the *Italians*, *Genoua la Superba*, having beautiful *Palaces*, with delightful *Gardens*; its *Strada Nova* being a spacious, long, and strait *Street*, on each side imbellished with stately *Palaces*, which for the most part are supported by vast Pillars of *Marble*, not to be paralel'd in the World; amongst which may be reckoned the *Jesuits Colledge*, than which nothing can be more polite. The *Palace* of the Prince *d'Oria*, with its famous *Bird-cage*, deserves a particular mention; nor is its new *Mould* to be forgotten, which hath made the *Port* twice as capacious, and much safer than before. The *City* is in circuit about eight miles, defended besides its *Walls*, by a strong and fair *Castle*; it is exceeding populous and rich, its Inhabitants being observed to be the greatest *Usurers* and *Money-mongers* in the World, which is a great obstruction to its Trade. 2. *Savona*, of note for the interview between *Ferdinand* of *Spain*, and *Lewis* the 12th of *France*, *Anno* 1507. 3. *Sarzana*; 4. *Arbengue*; and 5. *Vintimiglia*.

Estate of *Montferat*.

The Estate or Country of *MONTFERAT* doth in part belong to the Duke of *Mantoua*, and the rest to the Duke of *Savoy*; a Mountainous Country, but of a fertil Soyl. It is encompassed with the *Appenine Hills*, *Millain*, and *Piedmont*: the River *Tenarus* parts the possessions of the Duke of *Mantoua* from that of *Savoy*; its chief places are, 1. *Alba*, where *Pertinax* the *Roman* Emperour was born; 2. *St. Vito*, built by the first Duke of *Mantoua*; 3. *Casal*; and 4. *Trin*, fair Cities, with some others.

In the *Lower LOMBARDY* we have placed the Estates of *Venice*, *Mantoua*, *Modena*, *Parma*, *Placenza*, and *Trent*; of which in order.

Estates of *Venice*.

The Estates of the Duke of *VENICE* may be divided into several *Parts* or *Provinces*, as they lye on firm Land and on the Sea, which are taken notice of in the *Geographical Tables* of *Italy*; the chief of which I shall here only name, as I have occasion to treat of the Cities; 1. *Trevigi*, seated in the Province of *Marche Trevisane*, a City of some account, as commodious for an Inland *Trade*. 2. *Bressia*, seated in the Province of *Bressan*, esteemed the second City for largeness and beauty in all *Lombardy*; it is more famous in her *Archbishop*, who is Earl, Marquess, and Duke, than in any matter of trade. 3. *Brescello*, in the Province of *Bressan*, famous for the death of *Otho*, the *Roman* Emperour. 4. *Este*, in the Province of *Padouan*, from whence came the late Dukes of *Ferrara*: 5. *Crema*, in the Province of *Cremase*, seated on the River *Serio*, and in a very fertil Soyl; a beautiful and rich City, adorned with stately Edifices; and about two Furlongs from the City, towards the Castle, is a stately Temple, called *Santa Maria della Grace*, a structure of great beauty, and richly adorned with *Pictures*, &c. a place much frequented for Devotion sake: this City may be termed a strong Fortress against the *Millanois*, upon which it borders. 6. *Vicenzo*, in the Province of *Vicentin*, seated at the bottom of a Hill which commands the City, being well watered with

Rivers, which uniting themselves not far distant from the City, form a Navigable River, capable to receive *Vessels* of a considerable burthen, which passing by *Padua* falls into the Sea by *Venice*. It is about four miles in circuit, beautified with stately *Palaces*, *Temples*, and Publick buildings; it is very populous, and inhabited by *Nobility* and *Gentry*, who contrary to the custom of the *Italians*, delight to *Travel*; here is a famous *Theater*, capable to receive five thousand People, whose Stage is so represented by Prospective, that it seems a stately City, being modelled by the famous Architect, *Andreo Palladio*: then its *Piazza*, a spacious and beautiful place. 7. *Verona*, in the Province of *Veronois*, a fair, large and beautiful City, seated on the *Athesis*, a place of great strength, as well by Nature as Art, and boasteth chiefly of its yet standing *Amphitheater*, capable to receive about 80000 Persons. 8. *Padua*, in the Province of *Padouan*, seated in the midst of a spacious Plain, about 20 miles distant from the Sea; It is a place of good strength, being inclosed with double *Walls* and deep *Ditches*, besides its *Bulwarks* and *Fortifications*; it was built by *Antenor*, Brother to *Priam* King of *Troy*, whose Tomb is here yet to be seen: to this City do belong seven *Gates*, several *Stone-Bridges*, and five spacious *Piazza's*; it is every where beautified with many splendid *Edifices*, as well private as publick; also its *Churches* are no less beautiful and rich, of which the *Domo* or *Cathedral* is chief; its *Hall* of Justice is a spacious and stately structure, near to which are the *Schools* for Learning: but this City is now most famous for its *University* of *Physicians*. 9. *Bergamo*, in *Bergamasse*, adjoyning to *Cremase*: 10. *Feltri*, in *Feltrin*, towards the Bishoprick of *Trent*; and 11. *Rovigo*, in the *Polesine* of *Rovigo*, far engaged towards the *Estates of the Church*. And these Provinces may properly be comprehended under one part, to wit, *Marche Trevisane*. The chief *Rivers* in this Country are *Addua*, *Athesis*, *Brenta*, and *Olius*.

Estates of *Friuli*.

The second part in this Estate of *Venice*, is *FRIOLANI*, encompassed with *Histria*, the *Alpes*, *Trevigiana*, and the *Adriatick Sea*. Its chief places are, 1. *Aquilegia*, seated on the *Natisco*, a place not very well inhabited: 2. *Cuidad de Austria*, built by *Julius Cæsar*: 3. *Palma la Nova*, the best fortified place in all *Italy*; and 4. *Tergestum*, or *Treist*, seated nigh the *Sea-shoar*. The chief Rivers are *Natisco*, *Risanus*, and *Lizonsus*.

The third and last part of this Estate shall be *ISTRIA*, of an unhealthful Air. Its chief places are, 1. *Cabo d'Istria*; 2. *Polo*; 3. *Cita Nuova*; and 4. *Parenzo*: But to proceed to *Venice*, the principal City of this Republick.

City of *Venice*.

The City of *VENICE* is seated at the bottom of the *Adriatick Sea*, or *Gulph* of *Venice*, built on 72 *Islands*, being distant from the main Land five miles, and defended from the fury of the Sea by a Bank of sixty miles in length, through which, in seven places there are passages broken for small *Vessels*, save only at *Malamocco*, and the Castle of *Leo*, which are strongly fortified; it is about eight miles in circuit, having for the conveniency of the Inhabitants about 4000 *Bridges*, amongst which that of *Rialto* is the chief, built over the *Grand Canal*, which for length, breadth and height, may compare with any in the World; and for the passage of *People* to and fro, here are said to be employed about 10 or 12000 *Gondelos*; all its *Buildings* are fair and beautiful; here are 200 particular places built of *Marble*, adorned with *Columns*, *Statues*, and *Pictures* of great value, erected by the *Senators*, which for their Grandure are fit to lodge and entertain any Prince in *Christendom*, most of which are seated on the *Grand Canal*. Also the Royal and proud Palace of the Duke deserves a particular description, which for its largness, beauty and riches, as well in its fabrick without, as in its *Pictures* and *Statues* within, exceeds all others: then the *Tribunals* or *Courts* of *Justice*, the *Senate-house*, or great *Hall*. Its *Arsenal* or *Magazine* of War being about two miles in circuit, encompassed with high *Walls*, and the *Sea* having but one place or Gate for entrance, and only one Channel for *Ships* to pass in and out at; and here is kept

kept always in readiness about two hundred *Gallies*, with all things fit for a Voyage or fight; also here are kept a thousand Coats of Plate, garnished with *Gold* and covered with *Velvet*; but above all, its Church of St. *Mark*, which for its exteriour and interiour beauty, and richness of its Ornaments, have deservedly made this City famous; and in this Church, according to report, lyeth the body of St. *Mark*, the Patron of this City, which was brought hither from *Alexandria*. In this City are seventeen rich *Hospitals*, 56 *Tribunals*, 67 *Parish Churches*, 26 *Monasteries* of *Nuns*, 54 *Convents* of *Fryars*, 18 *Chappels*, and six *Free-Schools* for the increase of Learning. Its *Piazza*, or broad place of St. *Mark*, adorned with sumptuous *Fabricks*, *Statues*, &c. is a place much frequented by the *Gentry*. This City is the only place where *Policy*, *Warfare*, and *Merchandize* have embraced one another: the *Gentry* are here held in such esteem, that it is held for the greatest honour they can bestow upon the best deserver, to make him a *Gentleman* of this City, and from them the *Senatours* are chosen; and out of them the *Duke*, who in a manner is only titular, not having the Regal power, his Salary which is paid him out of the Common Treasury, is forty thousand *Duccats* yearly.

In this Estate are two *Patriarchs*, and 34 *Bishops*.

Dukedom of *Mantoua*.

The Dukedom of *MANTOUA*, seated Northwards of the Estates of *Venice*: Its chief City is so called, a place of good strength, encompassed on the sides with Water about a quarter of a mile broad, and on the other side with a *Wall*; it is seated on a River, which emptieth it self into the *Po*. In this City *Virgil*, that famous *Poet*, was born.

Dukedom of *Modena*.

The Dukedom of *MODENA*, formerly joyned to that of *Mantoua*, hath for its chief City, *Modena*, famous for the Battle between *Anthony* and *Augustus*, where *Hirtius* and *Pansa*, the two *Consuls*, were slain, and *Anthony* lost the day. This place is the residence of its *Dukes*, as *Mantoua* is of hers.

Dukedoms of *Parma*, and *Placentia*.

The Dukedom of *PARMA* and *PLACENTIA*, Northwards of *Mantoua*, hath for its chief place *Parma*, seated in a fruitful Plain five miles from the *Appennines*. It is about four miles in circuit, adorned with many rich and stately *Structures*, is very populous, and well inhabited by *Gentry*, who are much addicted to *Learning* and *Arms*: it hath a fair and spacious *Campagnia*, which feeds abundance of *Sheep*; and here the Duke hath his *Palace*, which is a place of great delight and state. This Country boasts of its *Parmasan-Cheese*, so much esteemed by some. The chief place of *Placenza* is so called; it is seated on the *Po*, commodious for *Traffick*, and famous for its *Fairs* in *Exchanges* here quarterly kept, which are much resorted unto: it is about five miles in compass, a place of good strength and beauty, being adorned with many fair and rich *Structures* and *Churches*.

Bishoprick of *Trent*.

The *Bishoprick* of *TRENT*, whose chief City bears its names; it is seated in a Plain, and surrounded with *Mountains* of an excessive height, being always covered with *Snow*, by reason of which it is more fit for *Wines* than *Corn*. The *City* is not large, but indifferent strong; its *Houses* are fair and stately, its *Streets* large, its *Churches* beautiful and richly adorned, and its Royal *Palace* sumptuous and stately. This City is famous for the general Council there held, for the establishment of the *Roman Catholick Religion*.

ITALY, particularly so called.

The second part of *Italy*, according to our method, will contain the *Estates* of the *CHURCH* and *TOSCANE*, which may again be subdivided into others, which are taken notice of in the *Geographical Tables*, of which in order.

Territory of *Ferrarisse.*

The Territory of *FERRARESSE*, about 160 miles in length, and 50 in breadth, had once Dukes of its own, but now belongs to the *Pope*; its chief place is *Ferrara*, so called from the *Iron-Mines* about it; it is seated on the *Po*, which serves as a Rampire to defend it on the one side, as doth a strong *Wall*, well fortified with a spacious *Mote*, on the other side; it is about five miles in compass, beautifully built, and adorned with superb *Edifices*, and is accounted one of the pleasantest Cities in *Italy*, having in the midst thereof a spacious *Green*, into which doth open about 20 *Streets*, most of which are about half a mile in length, and so even and uniform, that from thence the utmost ends of each may be easily discovered: It is well inhabited, rich, and dignified with an *University*.

Province of *Bolognois.*

The Province of *BOLOGNOIS*, Eastwards of *Modena*, hath for its chief place *Bologna*, once the head of 12 Cities; it is seated on the River *Aposa*, and in a large and fertil Territory for *Corn*, *Wine*, *Fruits*, and *Olives*; it is about five miles in circuit, and begirt with a *Wall*. This City is adorned with many fair and proud Buildings, in which they observe a uniformity, amongst which is the *Pope's Palace* for his retirement, which for grandure and stateliness is fit to give entertainment to any Prince in *Christendom*. It is dignified with the chief *University* of *Italy*, famous for the study of the *Civil Law*; it is proudly built, having spacious *Courts*.

Province of *Romandiola.*

ROMANDIOLA, or *ROMAGNE*, Eastwards of *Bolognese*, hath for its chief places, 1. *Ravenna*, seated on the *Adriatick*, and once a place of good account, having one of the fairest *Havens* in the World, which is now choaked up. This City was the seat of the Emperour *Honorius*, and his Successors, then of the *Gothish Kings*, and lastly of its *Patriarch*; but now, as its *Haven* is choaked up, so is the Land covered with water, which makes it become useless. 2. *Rimini*, seated on the mouth of the River *Rubicon*. 3. *Cervia*, seated on the *Adriatick Sea*, a place where so great quantity of *Salt* is made, that the *Popes* part is valued yearly at 60000 *Crowns*, and 4. *Faenza*.

Dukedom of *Urbin.*

The *Dutchy* or *Dukedom* of *URBIN*, not long since fallen to the *Holy Seat*, it lying in the midst of his Territories. Its chief places are, 1. *Urbin*, seated at the bottom of the *Appennine*, formed like a *Miter*: 2. *Belfort*, seated in the Midland: 3. *Fano*, a Sea-port Town to *Urbin*, where the *English* do enjoy many Immunities; and 4. *Pisaro*, a Maritim Town, enjoying a good *Haven*.

Province of *Marca Ancona.*

The Province of *MARCA ANCONA*, bounded with the *Adriatick*, *Naples*, the *Appennine* and *Romagne*; it takes its name from *Ancona*, its chief City seated on the Hill *Cimmerius*, which likes a Promontory shoots it self into the *Sea*, having the best *Haven* in *Italy*, towards the *Adriatick Sea*, the entrance into which is shut up by two Chains, the better to secure the *Port*. It is a City of good strength, being encompassed with *Walls* and *Bulwarks*; its *Houses* are fair, and its *Inhabitants* rich. 2. *Loretto*, famous for the Church of the *Virgin Mary*, which, as 'tis said was brought from *Palestine* in the Air by *Angels* for the Sins of the People, and is now a stately Structure, and richly adorned with the Presents dedicated to the *Virgin Mary*, and is much resorted

resorted unto by Pilgrims. 3. *Marcerata*, the Seat of the *Governours* of this Province; and here is a *Colledge* of *Lawyers* for the hearing and determining of causes. 4. *Adria*, which gave name to the adjoyning *Sea*: 5. *Ascoli* the *Fair*: and 6. *Fermo* the *Strong*.

Province of *Perusin.*

The Province or part of *PERUSIN* is Westwards of *Ombriæ*, its chief place is *Perugia*, where *Augustus* besieged *L. Antonius* the Brother, and *Fulvia* the wife of *Anthony* the *Triumvir*, which said place at the Siege became also obedient unto him; and nigh to this City is *Lago de Perugia*, of about thirty miles in circuit, near whose Banks, *Hannibal* slew *Flaminius* 15000 of his *Romans*: here is also *Lacus Vademonius*, where *Dolabella* vanquished such of the *Gauls* as had escaped the Sword of *Camillus*.

Dutchy of *Spolete.*

The *Dutchy* of *SPOLETO*, anciently called *Ombria*, as scituate under the *Appennine Hills*; hath for its chief places, 1. *Spoleto*, of great antiquity, where are yet remaining stately *Aqueducts*; the *Temple* of *Concord*, &c. 2. *Assisio*, famous for little, but being the Birth-place of St. *Francis*. 3 *Fuligne*; 4. *Todi*; 5. *Amelia*; and 6. *Rieti*.

Land of *Sabine.*

The Land of *SABINE*, Southwards of *Spoleto*, hath for its chief place *Narvy*, which is of some Account.

Province of *Orietin.*

The Province of *ORIETIN*, Westwards of *Spoleto*, hath for its chief places, 1. *Orvieto*, seated on so high a Rock, that it amazes those that look into the adjacent Valleys; and 2. *Aquapendente*.

St. *Peters Patrimony.*

The part or Province called *St. PETERS Patrimony*, contains also all *Latium*, or *Campagna di Roma*, and part of *Ituria*; it is washed with the *Tyrrhenian Sea*; and in this part are the Mountains called *Gallicanum*, in which *Hannibal* frighted that noble Captain *Fab. Maximus* with a Stratagem, which was by having 2000 *Oxen*, which carried fire on their *Horns*, by which means he passed over the Mountains. Its chief places are, 1. *Ostria*, seated at the Mouth of the *Tiber*, but its *Haven* is stopped up; it is honoured with the See of a *Bishop*, whose place is to consecrate the *Popes*. 2. *Adrea*, to which the *Romans* fled, after the *Gauls* had taken *Rome*. 3. *Veij*, a City of good antiquity, wealth, and largeness. 4. *Alba*, once the Seat of the *Silvian Kings*, and of good fame and beauty, but suffered much in the *Wars* by the hand of *Tullus Hostilius*. 5. *Antium*, a place of great delight, to which the *Roman Emperours* used to retire for recreation. 6. *Civita Vechia*, a Maritim Town, abounding in great plenty of *Alom*. 7. *Viterbo*; 8. *Porto*; 9. *Corneto*; 10. *Veroli*; 11. *Palestrina*; and 12. *Trivoli*, all places of some account; but above all *Rome*, seated in the Territory of *Campagna di Roma*, once the Mistress of the World, famous for her noble *Warriers*, who were so exact in their *Martial Discipline*, for their *Triumphs* and *Antiquities*, and for being the place where the *Spoyls* and *Trophies* of all *Europe*, and a great part of *Asia*, were laid up; in brief, it was a place sufficiently memorized by the ancient and renowned *Historians*. This *City*, when in its pristine splendor, was said to be 50 miles in compass, whose *Walls* were beautified with about 750 *Towers*, and said to contain about 463000 fighting men, that is, free *Citizens*, such as were inrolled, besides *Servants*, *Women*, and *Children*; but this City hath several times felt the jostlings of ill fortune, so that as to its present state it hath not the moiety of its pristine beauty and splendour, scarce containing 11 miles in circuit, being almost Orbicular, in which space there is about one third part wast ground; yet it is a place of great splendor, beautified with many Princely *Palaces*, and sufficiently famous for being the Seat of the *Pope*, which makes it to be exceeding populous, being thought to contain about 200000 *Inhabitants*, besides an exceeding great confluence of Strangers which hither come, some for devotion, and others to please their fancies with its *Antiquities* and *Curiosities*; and of the *Inhabitants*, two thirds may be reckoned for *Clergy-men* and *Curtesans*, the later of which

The City of *Rome.*

which is esteemed to amount to about 40000, who pay 30000 *Duccats* yearly Tribute to the *Pope*, for which two *Galbies* are maintained and furnished for the service in *Civita Vechia*. This City is seated on the Banks of the *Tiber*, upon *Campus Martius*; it is built upon ten Hills, on which are fair Structures, as on the top of the *Vatican* Hill, is seated the proud Palace of the *Popes*, large enough to give entertainment to three *Princes* at one time. It is beautified and enriched with excellent *paintings* and *curiosities*; and here are the Gardens called *Belvidere*, famous for its rare *Plants*, delightful *Walks*, curious *Statues*, &c. and on this Hill is the Church of St. *Peter*, being the most splendid and famous in all *Rome*, being adorned with rich *Paintings*, *Tombs*, &c. with divers choice Curiosities, as the *Spear* that pierced our *Saviours side*, and the head of St. *Andrew*. In this City are about 300 *Churches*, *Monasteries* for *Nuns*, *Religious Houses*, and *Convents*; here are many *Hospitals* for the relief of the Distressed, likewise several gallant *Libraries*, as the *Vatican*, the *Jesuits Colledge*, &c. And here the *Pope* liveth in more grandure than any Prince in *Christendom*, and the *Cardinals* have their *Palaces* richly adorned, and dwell in good state.

TOSCANY.

Dukedom of *Toscany*.

The Dukedom of *FLORENCE* containeth the greatest part of *Toscany*, to which doth belong those of *Sanese* and *Pisan*, and which I shall include under the Dukedom of *Florence*. It is separated from *Genoa* by the River *Magra*, and the strong Town of *Sarazana*, belonging to the *Genouese*. Its People, even the Duke himself, are generally addicted to *Traffick*, by reason of which it is a Country very rich.

Florence.

Amongst the Cities in this Territory is *Florence*, seated in a no less fruitful than pleasant Plain, near the confluence of the Rivers *Arno* and *Chiane*, about six miles in compass; and by reason of being the residence of the Duke, is very populous and rich, where he hath a stately and magnificent *Palace*, richly adorned; and to make it a perfect place of pleasure, its *Courts* are fair, and its *Gardens* spacious and delightful, having therein excellent *Fountains*, *Groves*, *Labyrinths* and *Walks*, besides a place where all sorts of wild *Beasts* are kept. Besides this *Palace*, here are several fair and superb *Edifices*, being a place so extraordinary beautiful, that *Charles* the Arch-Duke used to say, *It was fit to be seen only on Holy-days*. Here are 44 *Parish Churches*, about 50 *Nunneries*, 14 *Fryeries*, 12 *Priorates*, and about 30 *Hospitals*. This City was built by *Sylla*, that bloody Dictator, and was made a Colony by the *Triumviri*; It was razed by the *Lombards*, re-edified by *Charles* the Great, bought its Liberty of *Rodolphus*, and now continues subject to the *Medices*, Dukes of *Florence*. This City enjoys a great Trade, by reason of the Privileges and kind entertainment which they find; all sorts of Merchandize being here landed free from all *Imposts*, *Duties* and *Customs*, an advantage not found in many places. 2. *Pisa*, seated at the entrance of the River *Arno* into the Sea; It was once a very large City, and had great Territories, *Corsica*, *Sardinia*, and *Baleares*, having been under its subjection, being very rich and powerful both by *Land* and *Sea*; but the many shocks of Ill-fortune have reduced it within one half of its Ancient limits; yet its many good Buildings shew its ancient splendor. 3. *Siena*, in *Sanese*, built by *Brennus* the *Gaul*, an Inland-City, seated in a large, pleasant and fertil Territory, adorned with beautiful Buildings both publick and private. 4. *Pistoya*, a City, though small, yet rich and well built, famous for its beginning that bloody faction of the *Neri* and *Bianchi*, as of the *Guelfes* and *Ghibellines*: And 5. *Ligorne*, seated at the mouth of the *Arno*, a fair and beautiful City, being accounted the strongest, and one of the principal Towns of Trade in the *Mediterranean Seas*. This City, not many years past, was purchased by the *Florentines* of the *Genoas*, for 1200000 *Duckets*; before which it was a place of no great note, nor beauty, being a reception for *Thieves*, *Murtherers*, *Pirates*, and all

all sorts of Religions, or rather Irreligious people; but now it is well inhabited and resorted unto by *Merchants*, abounding in several rich Commodities.

Common-wealth of *Lucque*, &c.

The *Commonwealth* of *LUCQUE*, the *Signiory* of *PIOMBINE*, the *Isle* of *ELBE*, and the *Principality* of *MASSA*, make up the rest of *Toscany*. This last is but small in circuit, but yeilds abundance of *white Marble*, and is beautified with the Cities of *Massa* and *Carrara*; the last of ther the residence of the *Prince*, the former strengthned with a stately *Castle*; both beautified with excellent *Marble Statues*.

LUCQUE comprehends the Territory and Town of *Lucca*, which is seated on the River *Serchius* in a Plain, about three miles in circuit; a place of good beauty, being replenished with many fair *Edifices* and stately *Churches*, amongst which that of St. *Martin* is the chief; and the Walls are so adorned with *Trees*, that at a distance it seems a City in a *Wood*. It is of note for being the meeting place of *Pompey*, *Cæsar*, and *Crassus*, all three famous Commanders, where they consulted and joyned into a Confederacy for the enlarging their Possessions, and gaining more honour.

Isle of *Elbe*.

Next the *Isle* of *ELBE*, seated nigh the shoar, and opposite to the Isle of *Corsica*: Its chief places are, 1. *Cosmopoli*, and 2. *Porto Longone*. And opposite to this Isle on the *Toscane shoar*, is the small *Signiory* of *PIOMBINE*.

Kingdom of NAPLES.

Kingdom of *Naples*.

The third and last part of *Italy* in general, we have comprehended under the Kingdom of *NAPLES*, which by some have been divided into 6 parts, viz. *Terra di Lavoro*, *Calabria Superiour*, and *Inferiour*, *Abruzzo*, *Pugia*, or *Capitanata*, and *Terra di Otranto*. It is enclosed on all parts with the Sea, except towards the *Lands of the Church*; it is every where very fertil, and by some accounted the richest in all *Italy*, abounding in excellent *Wines*, *Silks*, both raw, and wrought into many Fabricks; in *Oils*, *Saffron*, *Almonds*, *Anniseeds*, *Argal*, *Brimstone*, Mines of several *Metals*, &c. It is well water'd with *Rivers* and *fresh Streams*, affords plenty of *Cattel*, *Fowls*, and *Grains*; and is throughout replenished with fair, pleasant, and beautiful *Cities* and *Towns*. Its parts are:

1. *TERRA DI LAVORO*, in which part is seated *Naples*, the Metropolitan City in this Kingdom, and one of the fairest of *Europe*, called by the *Italians*, *Napoli la Gentile*, as being inhabited by so many *Nobles* and *Gentlemen*. It is seated on the *Mediterranean shoar*, amongst pleasant *Hills* and fruitful *Fields*, a City of great antiquity, being said to be built by *Hercules*; it is about 7 miles in compass, fortified with 4 strong *Castles*, a strong *Wall*, with *Towrs*, *Ditches*, &c. so that it is in a manner impregnable; it is beautified with many superb *Structures* and magnificent *Churches*, *Monasteries*, *Colledges*, *Courts*, and *Palaces* of *Princes* and *Nobles*, adjoyning to pleasant and delightful *Gardens*: its *Port* and *Haven* is commodious and good, where are kept store of *Gallies*. This place of late years hath been famous for its strange Rebellion under *Massanello*, a poor Fisher-man; here is an *Hospital*, endowed with 60000 Crowns yearly, for the maintenance of the sick, maimed and impotent People. The second City is *Cajeta*, commodiously seated on the *Sea-shoar*, a place of good strength. 3. *Potzol*, a fair and beautiful *City*, seated on the Sea-shoar, enjoying a commodious *Port*. 4. *Capua*, seated on the Banks of the River *Vulternus*; a place of great antiquity, and once very beautiful. 5. *Nola*, where *Hannibal* received an overthrow by *Marcellus*: and 6. *Euma*, once a fair and beautiful City, but now nothing but a heap of Ruins, nigh to which is the Lake *Avernus*, much famous amongst the *Poets*, whose unwholsom sulphureous stink so infecteth the Air, that Birds flying over it lose their lives; and hereabouts (according to fiction,) the *Poets* descend into *Hell*, and here *Æneas* went down into Hell to talk with his Father.

Part of Calabria Superiour.

2. *CALABRIA Superiour*, hath for its chief places 1. *Tarentum*, built by the *Lacedemonians*, and is the Birth-place of *Architas* the Philosopher. 2. *Cotrone*, whose Inhabitants were noted for their activity in the *Olympick Games*. 3. *Sybaris*, built and peopled by the *Grecians* after the destruction of *Troy*. 4. *Amycle*, formerly peopled by the *Pythagoreans*: and 5. *Cosenza*, a fair City, being the chief of these parts.

Part of Calabria Inferiour.

3. *CALABRIA Inferiour*, whose chief parts are, 1. *Peste*, or *Pessidonia*, where *Roses* grow thrice a year. 2. *Regio Rhezo*, or *Rhegium*, so called, because that here it is thought that *Sicily* was by the Sea broken from *Italy*. 3. *Salernum*, famous for the study of *Physick*; and 4. *Nicotera*, seated on the Sea-shoar.

Part of Abruzzo.

4. *ABRUZZO* hath for its chief places, 1. *Aquila*, seated near the *Appennine*. 2. *Aquino*, the Birth-place of that famous School Divine *Thomas Aquinas*. 3. *Sulmona*, the Birth-place of *Ovid* the famous *Poet*. 4. *Beneventa*, once called *Maleventum*; and 5. *Molise*, which some esteem to be the chief of the County.

Part of Puglia.

5. *PUGLIA*, whose chief places are, 1. *Manfredonia*, dignified with the Seat of an *Archbishop*. 2. *Cannæ*, famous for the signal Victory gained by *Hannibal* against the *Roman Consuls* and the *Romans*, of whom were slain about 42700, 3. *Barletta*, a strong Fortress. 4. *Venusia*, the Birth-place of *Horace*. 5. *Arpinum*, the Birth-place of *Tully*: and 6. *Mont St. Angelo*, a fair City, not far from *Manfredonia*.

Part of Terra di Otranto.

6. *TERRA DI OTRANTO* hath for its chief places, 1. *Otranto*, the taking of which by *Mahomet* the Great, put all *Italy* into such a fright, that *Rome* was almost left without *Inhabitants*, and was not fully inhabited until the expulsion of the *Turks* the next year. 2. *Brundusium*, boasting in its *Haven*, which is esteemed not inferiour to any in *Christendom*. 3. *Gallipoli*, a place of some Traffick, affording abundance of *Oyls* and *Cattle*. 4. *Leccie*; 5. *Tarantum*; and 6. *Brindici*; all places of good account.

In this Kingdom are 20 *Archbishops*, 127 *Bishops*, 13 *Princes*, 24 *Dukes*, 25 *Marquesses*, and 90 *Earls*. But let us proceed to the *Italian Isles*, and first with *Sicily*.

The ITALIAN ISLES.

SICILY.

Island of Sicily.

The *Island* of *SICILY* is the greatest neighbouring Isle to *Italy*, from which it is divided by a small Channel running between *Messina* and *Regio*, now called the *Phare* of *Messina*, and higher in this passage were the *Scylla* and *Charybdis* of the Ancients. This Isle was once called *Trinacria*, from its being Triangular, and abating 3 *Promontories* at each corner into the Sea, to wit, *Cape de Faro*, regarding *Italy*; *Cape Passaro*, regarding *Morea*; and *Cape Boji*, or *Cape Coco*, facing the Promontory *Mercurio*, of *Africa*. This Isle is termed the Queen of the *Mediterranean Isles*, not only for its greatness, being in compass about 700 miles; but for her other excellencies and admirable fertility, yielding all things necessary for the use of man; it chiefly abounds in *Wines*, *Oyls*, *Sugars*, *Honey*, *Wax*, *Salt*, *Saffron*, *Minerals*, *Alom*, *Agats*, *Coral*, *Emeralds*, and *Silk* in great plenty, both raw and wrought, and such abundance of all sorts of *Grains*, that it was called the *Granary* of the *Roman Empire*, and is now found to furnish *Malta*, the adjacent Isles, *Spain*, and some part of *Italy* with her superfluities. Here are many *Baths* of different natures, which are found good for several Infirmities. The chief *Hills* in this Isle are Mount *Hybla*, famous for its *Bees* and *Honey*, and Mount *Ætna*, for its sending forth flames of *fire*, which in the year 1669 made such an eruption, that it destroyed divers

divers Towns; and for its height, whose top is exalted ten miles above its Basis, and is a good Land-mark to *Saylers*. This *Island* was first inhabited by a race of huge *Giants*, much spoken of by *Homer*, who called them the *Lestrigones*; and the *Cyclopes* of which last was *Polyphemus*, so famoused for the entertainment of *Ulysses* and his Fellows. This *Isle* is divided into 3 *Provinces* or *Valleys*.

Its Parts and chief Places.

1. *VALLI DE NOTO*, which is the South-east part, hath for its chief places, 1. *Siracusa*, once the Metropolis of the whole *Isle*, strongly fenced about with a *Wall*, and other *Fortifications*, being a Garrison of *Spaniards*. Its Buildings are fair, and shew something of its Antiquity; it hath two *Havens*, one towards the South, and the other towards the North-sides of the City. 2. *Leontium*, seated Northwards of *Siracusa*, with which it had divers times struglings for Priority: And 3. *Enna*, a Midland Town or City.

2. *VALLI DE MAZORA* containeth all the West part of the *Isle*; its chief places are, 1. *Moreal*, or *Montreal*, famous for its *Archbishops See* and *Church*. 2. *Girgenti*, the Seat of the Tyrant *Phalaris*, who afflicted *Perillus* in the *Brazen Bull*: and 3. *Palermo*, once a Colony of the *Phœnicians*, and now the chief City in the *Isle*, being the Seat of the *Spanish Viceroy*. It is beautified with magnificent *Palaces* and *Temples*, curious Buildings, and fair Streets, famous for being the Birth-place of so many brave Men, as was *Siracusa*.

3. *VALLI DE DEMONA*, possessing the North-east part of the *Isle*, and boasteth of its chief Town *Messina*, seated opposite to *Rhegium* in *Naples*, a place of great strength, as well by Nature as Art, having before it the Sea, where they have a no less famous and commodious, than a strong *Haven*, and behind it are high Hills. It is the See of an *Archbishop*, beautified with fair and stately *Edifices*; and here the *Vice-Roy* hath a magnificent Palace adjoyning to the *Arsenal*, where their *Gallies*, &c. are kept; and here *Venus*, *Neptune*, *Castor*, and *Pollux* had their Temples, from whose ruins are now erected *Christian Churches*. The *Gentry* and *Citizens* here live in great delight and pleasure; this City is the chiefest place of Traffick in the *Isle*, being very well frequented by Merchants and Strangers. Its other places are *Malaso*, seated on the North Promontory; then *Erix*, where *Venus* was worshipped; next *Catania*, where there is a Colledge for the studying the *Sciences*, but chiefly for the *Civil* and *Canon Laws*; and lastly *Nicosia*, a Midland Town.

SARDINIA.

Isle of Sardinia.

The *Island* of *SARDINIA*, or *SARDAGNE*, is seated not far from *Sicily*; it is in length about 150 miles, and 90 in breadth; not so fertil as *Sicily*, yet it abounds in *Corn* and *Cattle*, but is deficient in *Oil*, and other Commodities. It is now subject to the *Spaniard*, and is divided into two parts, *viz. Cape Logodori*, and *Cape Gagliari*; Its chief places are, 1. *Cagliari*, seated opposite to *Africa*, having a commodious Haven, which makes it to be well frequented by Merchants. The City is adorned with goodly Buildings, fair *Temples*, and magnificent *Turrets*, being the Seat of the *Spanish Vice-Roy*, as also the See of an *Archbishop*. 2. *Bosa*, likewise the *See* of an *Archbishop*. 3. *Oristagni*, and 4. *Sassary*, both places of good account.

Its People are of a mean Stature, are very great Hunters, great Pains-takers, no lovers of the *Spaniards*, not much addicted to Learning, and in matters of Religion not over strict.

CORSICA.

Isle of *Corsica.* The *Isle* of *CORSICA*, seated in the *Ligurian* Sea, opposite to *Genoa*, is about 100 miles in length, and 50 in breadth; the Soil, by reason of the Mountains, is not very fertil in *Grain*, but aboundeth in excellent *Wines*; it yieldeth likewise *Oils*, *Figs*, *Raisons*, *Hony*, *Wax*, *Alom*, *Box-wood*, and *Iron-Mines*; its *Dogs* and *Horses* are esteemed excellent. The chief places are, 1. *Bastia*, seated on the North-east part, hath a commodious Haven, and strong Garrison, dignified with the residence of the *Genouese* Governour, under whose command the *Island* is. 2. *Mariana*; 3. *Calvi*; 4. *Porto-Vechio*; 5. *Adiazzo*; and 6. *Bonifacio*. The People are for the most part poor, headstrong, churlish, and not addicted to Literature.

The *Vulcanian* Isles. Besides this *Island* there are abundance of others, though of no great account, and far lesser; as the *VULCANIAN Isles*, lying on the Coast of *Sicily*, being 11 in number; the chief of which is *Lipara*, from whence the rest take their names, being about 10 miles in circuit; then *Stromboli* and *Vulcania* send forth a constant Smoak.

Isles of *Naples.* The *Isles* of *NAPLES* are 18 in number, the chief of which are *Ischia*, *Capreæ*, the retirement of *Tyberius*; and *Ænaria*.

Ligurian Isles. The chief of the *LIGURIAN Isles* is *Elba*, famous for its two Ports *Porto Ferraro*, and *Porto Longone*; Its chief places are, 1. *Cosmopolis*, built by *Cosmo di Medices*; 2. *Gallinaria*; 3. *Giglio*; and 4. *Monte Christo*, which is but a Rock.

Other Estates. There are yet in *Lombardy* many little Estates, as of *Mirandola*, *Guastella*, *Sabionetta*, &c. about *Mantoua*, of *Pallaviano*, and *Landa*, &c. amongst the Estates of *Parma* and *Placenza*, of *Manaco*; on the Coast of *Genoa*, of *Masseran* in *Piedmont*. The Count of *Pitiglian*, and the Marques of *Malispine* in *Toscany*; all which Princes, though holding from under the protection of others, have Sovereign Rights.

Italy, with its *Isles*, extends it self from about the 36*th degree* of *Latitude* unto the 46*th*, which are 250 Leagues from South to North, and from the 36*th degree* of *Longitude* to near the 48*th*, which are as much or little more from West to East; but its form scarce fills the third part of what is contained in these *degrees*.

In *Italy*, I make little Account of other *Rivers*, than that of the *Arno*, *Tiber*, and *Po*; the two first descend from the *Appennine*, the last from the *Alpes*.

TURKEY

TURKEY in EUROPE; or that which the Grand Signior possesseth in whole (or in part) in EUROPE; may be comprehended under

- HUNGARIA, with its chief Cities
  - belonging to the Grand Signior; as: Buda, Gyula, Canissa, Alba Regalis, Quinque Ecclesiæ.
  - belonging to the Emperour, or Hungarians; or: Presbourg, Strigonium, Zegith, Newhausel.
- ESCLAVONIA, which is possessed by the Turk, Hungarians, and Venetians, and may be divided into
  - ESCLAVONIA, with its Parts and chief Places, as they belong to the Turks and Venetians,
    - Croatia, — Turks: Wihitz, Sissek. Venetians: Pofega, Copranitz.
    - Esclavia, — Turks: Narenza, Mostar. Venetians:
    - Dalmatia, — Turkish: Ragusa, Spalato, Sebenico. Venetians: Zara.
  - DACIA, (now belonging to the Turks) with its Provinces of
    - Transilvania, — Waradin, Hermenstad.
    - Bosnia, — Sarajih, Bagnialuch, Jaycia.
    - Servia, — Belgrad.
    - Bulgaria, — Sophia.
    - Moldavia, — Zuccania, Lazy.
    - Bessarabia, — Khermen,
    - Walachia, — Targovisko.
- GREECE, as it is possessed by (or under the subjection of) the Grand Signior; which may be divided into the Provinces, or Parts of
  - ROMANIA, or ROMELI, of old, THRACE, — Constantinople, Andrinopoli, Gallipoli, Caridia, Abdera, Pera, and Galata.
  - MACEDONIA, with its parts of
    - Jamboli, — Heraclea.
    - Camenolitaria, — Pidna, Pella.
    - Migdonia, — Salonichi, Stagira.
  - ALBANIA, — Durazzo, Valona, Croja, and Sintari.
  - THESSALY, now by the Turks called JANNA, — Armiro, Larissa.
  - EPIRE, now by the Turks called CANINA, — Preveza, Larta.
  - ACHAIA, and ETOLIA, now called LIVADIA, — Athens, now Sitines; Thebes, now Sives; Lepanto.
  - PELOPONNESUS, now called the MOREA, — Corinte, Misistra, Modon, Petras, and Coron.
- Together with divers ISLES, (which for the most part are in the possession of the Turks, except some few, which the Venetians yet keep;) which as they lye in the
  - ÆGEAN SEA, are
    - Negropont, — Negroponte, Caristo.
    - Stallmene, of Old, Lemnos, — Lemnos.
    - The Isles called the SPORADES, and CYCLADES; which are the Isles of: Milo, Tira, Tirefio, Nio, Stapalia, Morgo, Nicsia, Levita, Zinara, Raclia, Siphano, Micone, Teno, Helena, Engia, Fermenia, Zea, Andri, Coos, Delos.
    - Samothracia, — Samos.
    - Tasso, — Tasso.
    - Pelagmisi, — Pelagmisi.
    - Sciro, — Sciro.
    - Creba, or Candia, — Candia, Canea, Suda.
  - IONIAN SEA, are the Isles of
    - Zante, — Zante.
    - Zefalonia, — Zefalonia, Auguftali.
    - Corfu, — Corfu.
    - Cerigo, — Cerigo.
    - Santa Maura, — Santa Maura.
    - Strivalis, — Strivalis.
    - Val de Campara, — Val de Campara.
  - ADRIATICK SEA, or GULPH of VENICE, are the Isles of (if any are so called,) — Zara, Vegea, Lesina, Cherso, Curzolo, and Grissa.

The

The Empire of the GRAND SIGNIOR, or GREAT TURK, holdeth

In EUROPE, and

- Towards the higher ESCLAVONIA,
  - Hungaria, in part, — Buda, Gyula.
  - Eſclavonia, in part, — Peſega.
  - Croatia, in part, — Wihitz.
  - Dalmatia, in part, — Narenca, Moſtar.
- Towards the lower ESCLAVONIA,
  - Boſnia, — Jaycza.
  - Servia, — Bagnialuch.
  - Bulgaria, — Belgrade, Sophia.
- On the BLACK SEA,
  - Podolia, in part, towards Moſcovia, — Oczącou, Azac, or Azeff.
- In GREECE, which by the Turks is called ROMELI, the Parts or Provinces of
  - Romania, — Conſtantinople, Adrianopoli, Gallipoli.
  - Macedonia, — Salonichi, Heraclea.
  - Albania, — Scutari, Durazzo, Vilone.
  - Theſſaly, — Armiro.
  - Epiro, — Preveza, Larta.
  - Achaia, and Etolia, — Athens, or Setines, Thebes, or Stives, Lepanto.
  - Peloponneſus, or the Morea, — Corinte, Miſiſtra, or Lacedemone, Petras.
  - And divers Iſles; the chief of which are — Negroponte, Scalimene, Sancta Maure, &c.
- ANATOLIA, wherein are divers Cities, among which are — Smyrna, Epheſus, Burſa, Chioutaige, Angoura, Cogni, Trebiſonde, &c.

In ASIA,

- Divers Iſles, the chief among which are
  - Rhodes, — Rhodes.
  - Cypre, or Cyprus, — Nicoſia, Famagouſta.
  - Metelin, — Metelin.
  - Scio, — Scio.
  - Samos, — Samos.
  - Patmoſa, or Fatmos, — Permos.
- SOURIA; which is divided in
  - Sourie, or Syrie, — Aleppo, Tripoli.
  - Phenicie, — Sayd, or Sidon, Damaſcus.
  - Judea, or the Holy Land, — Jeruſalem, Naplouſe, Gaza.
- ASSYRIA, which is divided in
  - Meſopotamia, or Diarbeck, — Caramit, Aſanchif.
  - Chaldea, — Bagdad, Baſſora.
  - Aſſyria, in part, — Moſul, Chiahnezul.
- TURCOMANIA, and
  - Georgia, in part, — Stranu, Gori.
  - Turcomania, — Teflis, Derbent.
- ARABIA, in part, to wit, in the
  - Stony, — Arach.
  - Deſart, — Ana.
  - Happie, — Zibid, Aden.

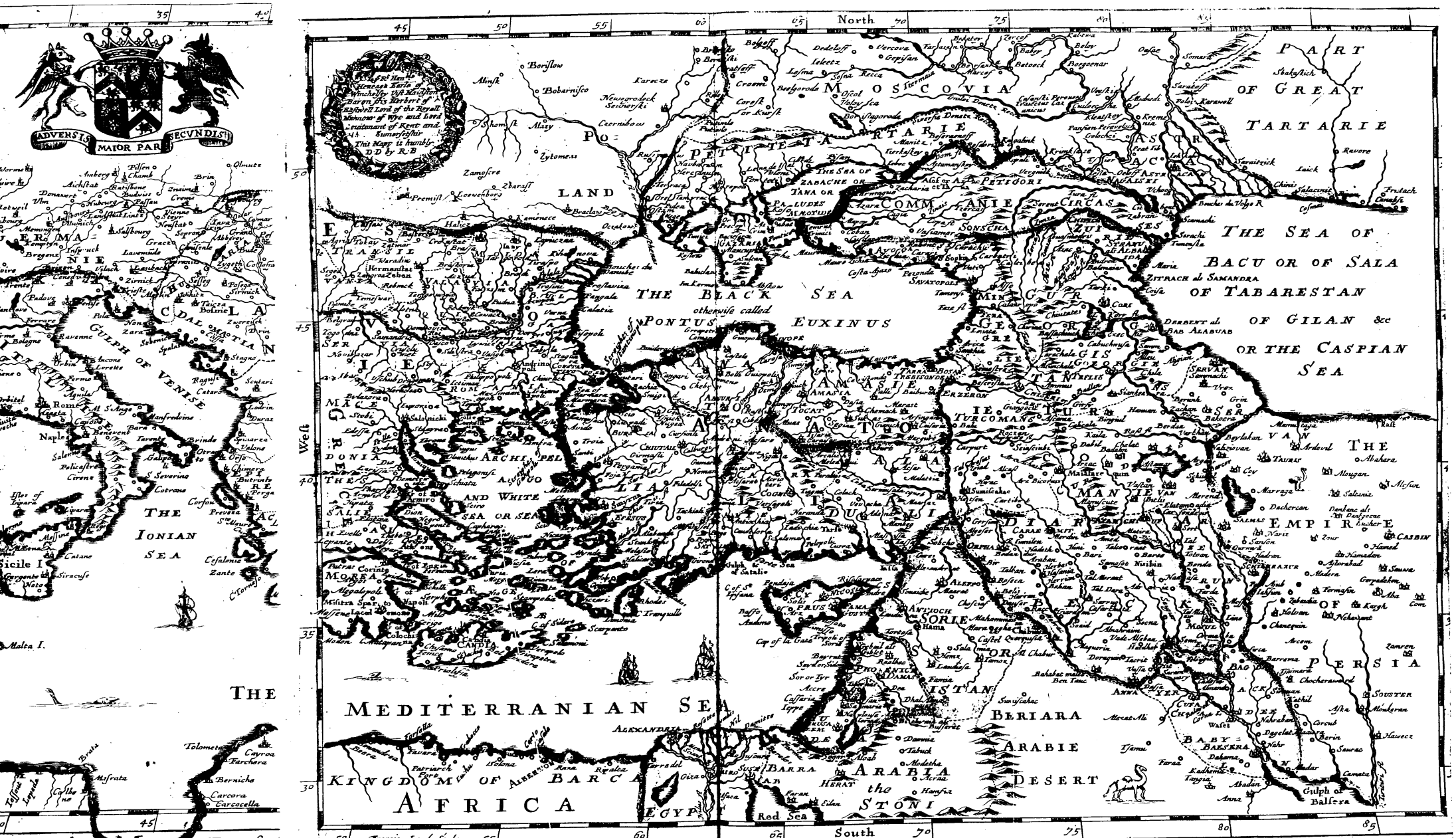
In AFRICA,

- Telenſin, — Telenſin.
- The Kingdom of ALGIER; where are four Parts or Kingdoms, to wit,
  - Algier, — Sargel, Tenes, Algier.
  - Bugia, — Bugia, Steffa.
  - Conſtantina, — Conſtantina, Bonna, and Tebeſſa.
- The Kingdom of TUNIS, with its eight Government; to wit,
  - Four Maritime, — Biſerte, Gouletta, Souſa, Media, or Africa.
  - Four Inland, — Tunis, Cairoan, Bogge, and Urbe.
- The Kingdom of TRIPOLI, with its parts of
  - Tripoli, — Tripoli, Lepeda.
  - Deſart of Barca, — Corena, Albertos.
- EGYPT, with its three Parts; to wit,
  - Errif, — Alexandria, Roſetta, Damietta.
  - Bechrio, or Demeſur, — Cairo.
  - Sayd, — Sayd, or Thebes.
- Nigh unto EGYPT,
  - Coaſt of Abex, in part, — Suaquen, Arquico, or Ercocco.
  - Between Egypt and Arabia, — Sues.

In EUROPE, reſtored from this Empire,

- The Signiory, and Republick of — Raguſe.
- The Vayvodes, or Princes of
  - Tranſilvania, — Hermanſtat.
  - Valaquia, — Tergovis.
  - Moldavia, — Saczou.
- And the Cham of the
  - Petit Tartaria, — Caffa.

TURKEY

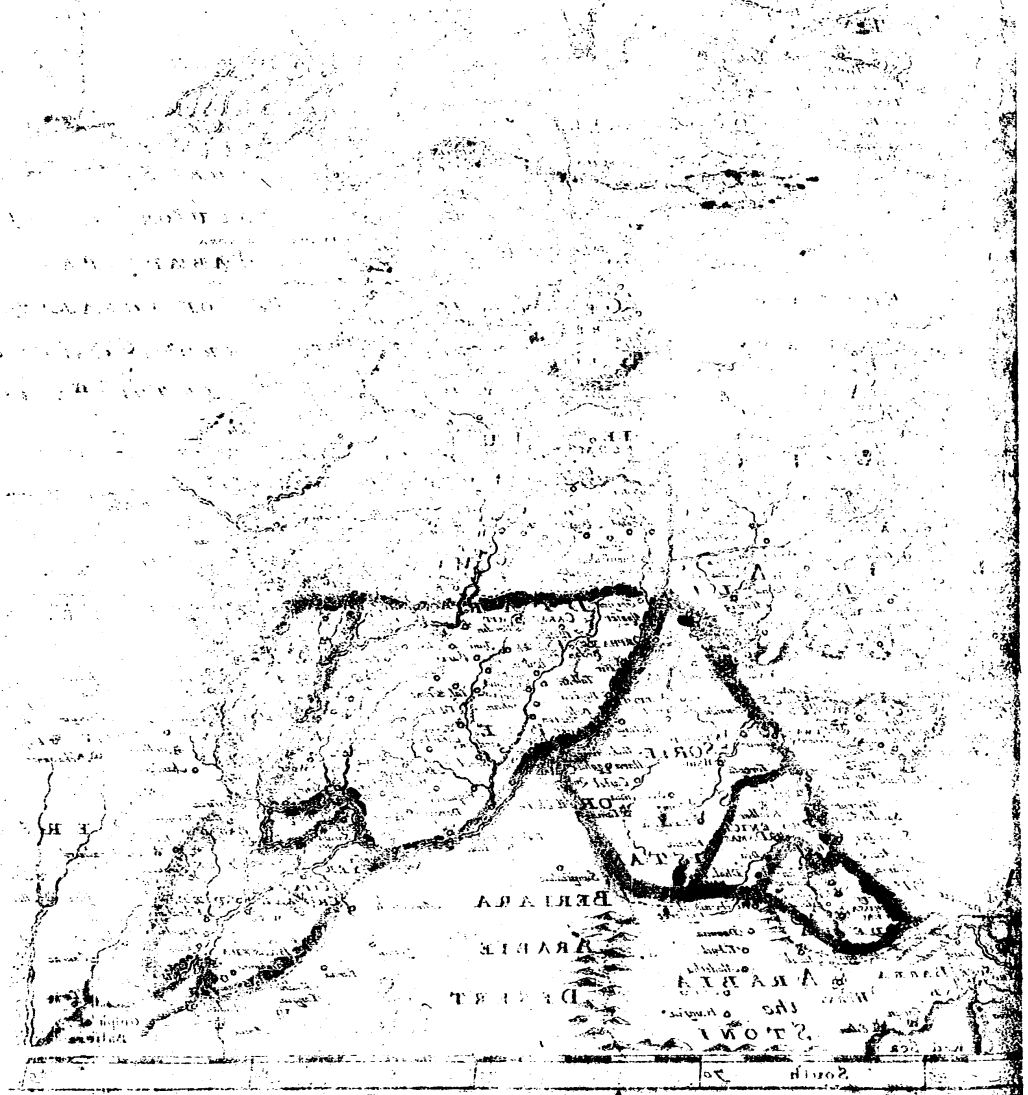


THE ESTATES of the TURKISH EMPIRE in ASIA, and EUROPE

Geographer to the French King

A MAPP of

Designed by Monsr Sanson



Turkey in Europe.

THE Estate or Empire of the *Sultan*, or the *Ottomans*, whom we call the *Grand SIGNIOR*, or *Great TURK*, is part in *Europe*, part in *Asia*, and part in *Africa*; the greatest part is in *Asia*, and the least in *Europe*; and yet this is not the least considerable, since the *Grand Signior* makes here his residence, and hath from hence his best Forces. That which he holds in *Europe* extends it self from the 35*th degree* of *Latitude* to the 45*th*, and sometimes near the 47*th*, which are 250 or 300 *French Leagues*; and from the 40*th* or *Longitude* unto, or beyond the 56*th*; which are likewise 300 *Leagues*.

Division of Turkey.

This part of the Estate of the *Turks*, which we call *TURKEY in EUROPE*, may be divided into two principal Regions; *viz. Sclavonia*, or *Esclavonia*, and *Greece*. *ESCLAVONIA*, which shall be along the *Danube* from *Germany* unto the *Black Sea*, and is bounded on one side with the *Danube*, and on the other with the Mountain *Marinai*: and under the name of *Esclavonia* may be understood *Hungaria*, especially so much as the *Turk* is Master of; the particular *Esclavonia*, with the Provinces of *Croacia*, *Bulgaria* and *Dalmatia*, of which parts the *Grand Signior* holds but one part; then the Kingdom of *Dacia*. The other Region, which I call *GREECE*, shall reach from the Mountain *Marinai*, a great way into the *Mediterranean Sea*, and advancing towards the South, in which are several *Provinces*, which we shall treat of.

HUNGARIA.

Kingdom of *Hungaria* described.

The Kingdom of *HUNGARIA* taken entirely, is bounded on the East with *Transilvania* and *Walachia*, on the South with *Sclavonia*, on the West with *Austria*, and on the North with *Poland*. It is in part possessed by the *Christians*, and in part by the *Turks*.

Its fertility.

This Kingdom is of an exceeding fertil Soyl, yielding *Corn* thrice a year, and feeding such abundance of *Cattle*, that it supplied *Germany*, *Sclavonia*, and other adjacent parts, with about 100000 *Oxen* yearly; they have *Deer*, *Pullain*, *Pheasants*, *Partridges*, and all sorts of *Fowl* in such plenty, that they are free for any one that will take them; and their Rivers are found to afford excellent *Fish*.

Its Commodities.

It also aboundeth in several good Commodities, as *Hides*, *Butter*, *Cheese*, *Copper*, *Honey*, *Wax*, *Fish*, &c.

Its Inhabitants.

The People are of a rude behaviour, not addicting themselves to Literature, nor *Mechanical Trades*. They use the *Scythian Language*; they are well proportioned, strong, and very valiant. The *Females* are denied the Estates of their Parents, neither have they any thing in Marriage; and until Men and Women are married, they are not allowed the use of Beds to lye upon.

Its division.

This Kingdom now stands divided between the *Grand Signior* and the *Hungarian*. The *Turke* have fifteen Sanzacks, to wit, of *Buda*, of *Canisa*, of *Agrica*, and of *Temiswar*; the chief Cities which they possess, are *Buda*, seated on the *Danube*, once the Metropolis of the Kingdom, and Royal

Seat

Seat of the Kings of *Hungaria*; it was taken by *Solyman* in 1536. Next *Guyula*, a ſtrong Town on the Confines of *Tranſilvania*, which was betrayed by the Governour to *Solyman* in hopes of a great Reward, which proved inſucceſsful unto him to the loſs of his life: then *Alba Regalis*, which by the *Germans* is called *Wiſenburgh*; alſo *Quinque Eccleſiæ*, taken in the ſame year with *Alba Regalis*: And theſe are the ſtrong places, and of good account with them. The chief places in the *Emperours* or *Hungarians* poſſeſſions, are *Presburg*, ſeated on the edge of *Auſtria*, and ſince the *Turks* became Maſters of *Buda*, this hath been the Metropolis of *Hungaria*: next, *Strigonium*, or *Gran*, once taken by the *Turks*, but regained; alſo *Zegith*, taken by *Solyman* the Magnificent in *Anno* 1566, who there ended his days: then *Newhauſel*, which hath ſeveral times withſtood the fury of the *Turks*. The other Towns in the *Hungarians* poſſeſſion, were (if not are) *Komara*, in the Iſle of *Schut*; then *Bars*, *Novigrad*, *Vizzegrad*, *Papa*, *Sarwar*, and *Owar*.

The chief Order of *Knighthood* in this Kingdom, is that of the *Dragon*, inſtituted by *Sigiſmund* King of *Hungaria*, and *Emperour*.

ESCLAVONIA.

Bounds of *Eſclavonia*.

ESCLAVONIA hath for its Eaſtern bounds the River *Drinus*, and a line drawn thence to the Sea; for its Southern bounds the *Adriatick Sea*; for its Weſtern, part of *Italy*; and for its Northern, *Hungaria*. The whole length of this Country is about 480 miles, and its breadth about 120; it is ſcituate under the *6th* and *7th Climats*, the longeſt day making 15 hours and a half.

Its diviſion.

This Country is divided into the Provinces of *Croacia*, *Dalmatia*, and the particular *Eſclavonia*, and are partly poſſeſſed by the *Venetians*, and partly by the *Turks*.

Its fertility.

The Country is obſerved to be more fit for grazing and feeding of *Cattle*, than for *Tillage*, for the *Sheep* and other Cattle bring forth their young twice a year, and their *Sheep* are ſhorn four times a year; likewiſe their chief Commodities are *Horſes*, for Service; *Cattle*, which yields them abundance of *Hides*, *Tallow*, *Butter*, *Cheeſe*, and *Wool*, of which they make *Cloth*. Here are alſo ſome Mines of *Gold* and *Silver*, which are in the *Turks* poſſeſſion.

In *Eſclavonia*, the chief places in the *Turks* poſſeſſion are *Poſega*, a place of good account, and *Barra*: and in the *Venetians* poſſeſſion is *Copranitz*, a fair, ſtrong, and good City.

Province of *Croacia*.

The Province of *CROACIA* is in a manner wholly poſſeſſed by the *Venetians*, the *Turks* only poſſeſſing the ſtrong Town of *Wihitz*: the chief places poſſeſſed by the *Venetians*, are 1. *Siſſeg*, or *Siſſaken*, famous for its reſiſting the *Turks* in 1592, a fair and ſtrong City. 2. *Gardiskia*, ſeated on the *Savus*. 3. *Novigrod*, alſo ſeated on the *Savus*: and 4. *Bruman*.

Province of *Dalmatia*.

The Province of *DALMATIA*, whoſe Southern parts are waſhed with the *Adriatick Sea*, is divided betwixt the *Venetians*, who hold the greateſt part, and the *Turks*; whoſe chief places are, 1. *Marenza*, ſeated on the Sea-ſhoar; 2. *Moſtar*, an Inland Town towards *Boſnia*; 3. *Stagno*, and 4. *Sibioncello*, both Maritim Towns; and nigh unto which is the Iſle of *MELEDA*, which alſo belongs to the *Grand Signior*. The chief Towns in the poſſeſſion of the *Venetians*, are 1. *Rhaguſa*, ſeated on the *Adriatick Sea*, a City of great Traffick and Riches, being a Commonwealth of it ſelf. 2. *Spalato*, a Maritim Town on the *Adriatick*, and in a moſt pleaſant Valley on the South ſide of great Mountains; and in the *Wall* towards the Sea, is to be ſeen a great remainder of a *Gallery* in *Diocleſians Palace*. This Town is kept by the *Venetians* as their only *Emporium*, plyed ſucceſſively with two *Gallies*, which carry between this place and *Venice* ſuch Merchandize as are Tranſported into *Turkey*, or from thence brought in. 3. *Zara*, a ſtrong Fortreſs, ſeated on the

Adriatick within the Gulph, which, by reaſon of its commodious ſcituation, is moſt apt to command the whole *Adriatick*, and is ſtrongly fortified and well Mann'd. In this City is a Temple of St. *John di Maſvitia*, which was built by a company of *Sea-men*, who being in a great and dangerous Tempeſt, made a Vow, that if they eſcaped they would conſecrate a Temple to the ſaid St. *John*; and being ſaved, they Landed here, and performed their Vows. 4. *Sebenico*, ſeated on the Sea-ſhoar, having large Territories. 5. *Nona*; and 6. *Trau*.

DACIA.

Its Bounds.

The Kingdom of *DACIA* is bounded on the Eaſt with the *Euxine Seas*, on the Weſt with *Hungaria*, and on the North with the *Carpathian* Mountains.

Commodities.

The Country throughout is very fertil, affording for Merchandize, *Oxen*, *Butter*, *Cheeſe*, *Tallow*, *Hides*, *Honey*, *Wax*, and excellent Warlike *Horſes*, whoſe Manes are ſaid to hang down to their feet; their *Fruits* are good, and in great plenty, and the Earth is inriched with Mines of ſeveral *Metals*. It is ſeated in the Northern *Temperate Zone*, between the *7th* and *10th Climates*, which makes the longeſt day to be 17 hours.

Its People.

The People are well made and proportionate; they are head-ſtrong, reſolute in their Opinions, and of no ready wit; they uſe the *Sclavonian* Language, they are *Chriſtians*, and follow the *Greek* Church.

The Kingdom at preſent is divided into ſeveral Provinces, as in the *Geographical Table* of *Turkey in Europe*, is ſet down; all which are ſubject to the *Grand Signior*.

Province of *Tranſilvania*.

The Province of *TRANSILVANIA* hath for its chief places, 1. *Waradine*, far engaged towards the Weſt, and it is a frontier Town to *Hungaria*, and of ſome account and ſtrength. 2. *Hermenſted*, more towards *Moldavia*. 3. *Weiſenburg*; 4. *Burges*; 5. and *Hanyad*.

Province of *Boſnia*.

The Province of *BOSNIA* hath for its chief places, 1. *Saraih*, the Metropolitan City, ſeated in a fruitful Valley, which on the North and South ſides are immured with ridges of pleaſant Hills, of an eaſie aſcent. This City is ſaid to contain about 80 *Meſcheetoes*, and about 20000 *Houſes*, which for the moſt part are but meanly built. 2. *Bagnialuch*, once the reſidence of the *Boſnian* Kings; and 3. *Jayeza*, the uſual Sepulcare of thoſe Kings.

Province of *Servia*.

The Province of *SERVIA*, whoſe chief Cities are, 1. *Belgrade*, once the *Bulwark* of *Chriſtendom*, valiantly reſiſting the power of *Amurath* the *6th*, and *Mahomet* the Great; but yielded to *Solyman*, *Anno* 1520, when this whole Country became a *Turkiſh Province*. 2. *Stenchourgh*, once the Seat of its *Deſpot*; and 3. *Samandria*.

Province of *Bulgaria*.

The Province of *BULGARIA* hath for its chief places, 1. *Sofia*, the Seat of the *Beglerbeg* of *Greece*, under whom are 21 *Sangiacs*, ſeated almoſt in the midſt of a long and fruitful Valley, beautified with many fair *Hanes* and *Baths*, the chief of which hath hot *Fountains*. Its *Colledge* is magnificent, and its *Meſcheetoes* are many and beautiful, eſpecially that in the midſt of the City, which is the largeſt; and here the doors of the houſes of the *Chriſtians* and *Jews* are not above 3 foot high, which is ſo made to keep out the *Turkiſh* Horſes, who would elſe in their Travels make them ſerve inſtead of *Stables*: ſo great is the ſlavery that they live under. 2. *Oeſco*; 3. *Novi*; 4. *Duroſtoro*; and 5. *Deſtor*; all which are ſeated on the *Danube*. 6. *Proſſavia*, ſeated at the mouth of one of the branches of the *Danube* at its fall into the *Euxine Sea*. 7. *Calatra*; and 8. *Varna*, both ſeated on the *Euxine* or *Black Sea*.

Province of *Moldavia*.

The Province of *MOLDAVIA*, whoſe chief places are, 1. *Zuccania*, once the Seat of the *Vaivod*. 2. *Sotzowa*; and 3. *Lazy*, both good Cities.

Country of Bessarabia.

To the Province of *Moldavia* doth belong the small Country of *BESSARABIA*, which lieth between *Podolia* and *Bulgaria*, and is commodiously seated on the *Black Sea*. Its chief places are *Kherman*, or *Moncastro*, the Seat of the *Turkish Sangiack*, seated on the River *Tyras*, not far from its influx into the Sea; and 2. *Kilia*, also seated on the *Euxine Sea*.

Province of Walachia.

The Province of *WALACHIA*, being divided from *Bulgaria* by the *Danube*, and is esteemed the richest Province in all *Dacia*. Its chief places are, 1. *Targovisco*, the Seat of the *Vajuods*; 2. *Dombovizza*; and 3. *Brailonum*.

GREECE.

The Parts of Greece.

The rest of *Turkey* in *Europe* may be comprehended under the name of *GREECE*, which is divided into several parts, to wit, *Romania*, which answers to the ancient *Thrace*; *Macedonia*, whose divers parts have received divers names, as that of *Jamboli*, of *Camenolitaria*, of *Migdonia*, or particular *Macedonia*, *Albania*, and *Thessaly*, which is now called *Junna*; *Epirus*, now *Canina*; *Achaia* and *Ætolia*, now *Livadia*; and *Peloponnesus*, now the *Morea*.

Its Bounds.

GREECE, esteemed the Mother of *Arts* and *Sciences*, hath for its Eastern bounds the *Ægean* Sea, the *Hellespont*, *Propontis*, and *Thracian Bosphorus*; and for its Western, the *Adriatick* Sea and *Italy*. It is seated in the *Northern Temperate Zone* under the *5th* and *6th Climates*, the longest day being 15 hours.

Its fertility, and Commodities.

The *Soil* without doubt is very rich and fruitful, and would be very profitable to the *Husbandman* if pains were taken in tilling it; but the *Great Turk* seizing on their Estates, when and as often as he pleaseth, makes them careless to cultivate it; yet here are found several good *Commodities*, which are transported to other places, as *Wines*, *Oils*, *Silk*, both raw, and wrought into several *Manufactures*, as *Velvets*, *Damasks*, &c. also *Grograms*, *Brimstone*, *Copper*, *Vitriol*, *Cottons*, *Sopes*, *Carpets*, *Cute*, *Currants*, *Cuminseed*, *Anniseeds*, &c.

The Ancient and present Greeks.

The *Grecians*, though a scattered People, since the *Turks* became Masters of their Country, yet still retain their *Name*, *Religion*, *Customs*, and *Language*, as indeed they do in all other places where they live. They were once a Nation so excellent, that their Precepts and Examples do yet remain, as approved *Canons* to direct the mind to Vertue; they were Lovers of freedom, every way noble; in matters of *Government* famous, in *Arms* glorious, in *Arts* admirable, and to whom the rest of the World were held *Barbarians*; but since they became under the *Turkish* yoke (for the generality) their Spirits are so low, that their *knowledge* is turned into *ignorance*, their *liberty* into contented *slavery*, their *Vertues* into *Vices*, and their *industry* in Arts and Sciences into *idleness*. They are much addicted to *drink* and *dancing*, for which they had the name of *Merry Greeks*; they are of a good proportion, and of a swarthy complexion; their *Women* are well favoured, brown, and excessively amorous; in matters of *Habit* they differ little from those amongst whom they live. The *Christian Faith* was here established by *Timothy*, to whom St. *Paul* wrote two *Epistles*. The Fathers which this Church most adhereth unto are *Chrysostom*, *Basil*, and the two *Gregories*; and the Church is governed by *Patriarchs*, one of *Constantinople*, another of *Alexandria*, another of *Jerusalem*, and another of *Antioch*, freely exercising their Religion, which differeth much from the Church of *Rome*, as I shall in place elsewhere take notice of, and have every where their *Temples* and *Monasteries*. If a *Patriarch* die, another is elected by the Synod of *Bishops*.

This

Famous Men here bred.

This Country hath bred several famous Men, as *Alexander* the Subverter of the *Persian Monarchy*, *Xenophon*, *Plutarch*, *Herodotus*, and *Thucydides*, famous *Historiographers*; *Epaminondas*, *Pyrrhus*, *Miltiades*, and *Aristides*, Captains; *Plato*, *Aristotle*, *Socrates*, and *Theophrastus*, Divine Philosophers; *Demosthenes*, *Æschines*, and *Isocrates*, eloquent Orators; with several others, too tedious to name; but to proceed to the *Provinces*.

Province of Romania.

ROMANIA, particularly so called, a Country of it self, neither of a rich Soyl, nor pleasant Air, more inclining to cold than heat; yet by reason of the famous Cities of *Constantinople*, *Adrianople*, and others here seated, renders it the chief, and best inhabited of all *Greece*. Its chief places are *Adrianople*, so called by the Emperour *Hadrian*, who repaired it; it was added to the Kingdom of the *Turks* by *Bajazet*, *Anno* 1362, and continued the Seat of their Kings till *Mahomet* the Great took *Constantinople* from *Constantine Palæologus*, the last of the Eastern Emperours, about 90 years after. *Blunt* in his Voyage to the *Levant*, in his description of this City saith, That it is seated on three low *Hills*, of which that in the midst is the largest and fairest, on the top of which is a stately and magnificent *Mosque*, and in the *Churchyard* are about 30 or 40 Cocks under a stately *Fountain*, for People to wash before Divine Service; as also at the bottom of this Building, on the North and South sides, are 20 *Conduits* with *Cocks*, and on the East side are the *Priests* Lodgings and Gardens; and round the *Church-yard* are *Baths*, *Cloysters*, and a *Colledge* for the *Priests*, with other useful Offices, all covered with Lead. In this City are several *Besestines*, or *Exchanges*, some of good account, as likewise many fair *Hanes*. To this City are four stately and lofty *Bridges* of *Freestone*, which make a pleasant shew, and is a fair, large, and well composed City. 2. *Gallipoli*, seated near the *Hellespont*, but within the Sea of *Marinora*. This was the first City that the *Turks* possessed in *Europe*, it being surprized by *Solyman*, Son to *Orchanes*, in *Anno* 1358. Here the *Beglerbegh* of the Sea hath his residence. A little below *Gallipoli* is the streightest passage of the *Hellespont*, a place formerly famous for *Xerxes* his *Bridge*, but especially for the two Castles of *Sesto*, on the *European* side; and *Abydo*, opposite to it on the *Asian* shoar, of note for the Loves of *Hero* and *Leander*; which Castles are now called the *Dardanelli*, and command the passage, and are the security or Bulwark of *Constantinople* on this, as those on the *Thracian Bosphorus* are on the other. 3. *Caridia*, seated on the *Thracian Chersonese*, opposite to the Isle of *Lemnos*, as also to *Troas* in *Asia*, and therefore now called *St. George's Arm*. 4. *Abdera*, the Birth-place of *Democritus*, who spent his time in Laughing. 5. *Pera*, a Town of the *Genoueses*, opposite to *Constantinople*. 6. *Galata*, also opposite to *Constantinople*, from which it is parted by a River, wherein is found a good Harbour for *Shipping*; and here all the Western *Christians*, as *English*, *French*, *Dutch*, and *Venetian* Merchants have their common residence, intermixed with *Jews*, *Grecians*, *Armenians*, and some few *Turks*: And lastly, *Constantinople*, the now Metropolitan City of all *Greece*, the Seat of the *Grand Signior*, and formerly of the Emperours of the East; first built by *Pausanias* a *Lacedemonian* Captain, about 660 years before the Birth of *Christ*. It is a City very commodiously seated for an Universal *Empire*, overlooking *Europe* and *Asia*, commanding the *Euxine* or *Black Sea*, the *Hellespont*, and Sea of *Marinara* or *Propontis*; on the upper part of which, and near the *Thracian Bosphorus*, it is seated, where it hath a *Haven* so deep and capacious, that the *Turks* for its excellency call it the *Port of the World*, so that for *strength*, *plenty*, and *commodity*, no place can compare to it. This City is in form Triangular; its *Walls* are composed of *Stone* and *Brick*, equally intermixed, to which it hath 24 *Gates* for entrance, whereof 5 regard the Land, and 19 the Water, being about 16 miles in compass; and supposed, with *Pera* and *Galata* adjoyning to it, and *Scutari* on the *Asian* side, to contain about 700000 living Souls, good part of which are *Christians* and *Jews*; and it would be far more populous, were it not for the *Plague*, which like a *Tertian Ague* here reigneth every third year, and sometimes

sometimes oftner. This City is adorned with many magnificent Buildings, both publick and private, as also with curious *Statues*, and other such like Ornaments, which were brought out of *Rome*, and other parts. There is no City in the World makes so stately a shew, if beheld from the Sea, or adjoyning Mountains, as this doth, whose lofty and beautiful *Cypress Trees* are so intermixed with the Buildings, that it seemeth to represent a *City* in a *Wood*, whose seven aspiring Heads (for on so many *Hills* it is seated,) are most of them crowned with magnificent *Mosques*, all of white *Marble*; in form round, and coupled above, being finished at the top with guilded *Spires*, some having two, some four, and some six adjoyning *Turrets*, of a great height, and very slender: so that there is no City in the World hath a more promising Object, and being entred, so much deceiveth the expectation, having many vacant places, several rows of Buildings, consisting only of *Shops*, the Houses not fair, lofty, nor uniform; the Streets exceeding narrow and ill contrived; yet here are many stately Houses, where the Great persons reside; also many *Canns* for Merchants, and abundance of *Mosques*, amongst which that of *Sancta Sophia* is the chief, once a *Christian Temple*. To every one of the principal *Mosques* doth belong publick *Bagnio's*, *Hospitals* with Lodgings, *Santons*, and *Ecclesiastical Persons*, which are endowed with competent Revenues: the inferiour *Mosques* for the most part are built square, many of them *Pent-houses*, with open *Galleries*, where on extraordinary times they pray. The number of *Mosques* of all sorts, including *Scutara*, *Para*, *Galata*, and the Buildings that border the *Bosphorus*, are said to be about 8000. This Temple of *St. Sophia* is almost every *Friday*, (which is their *Sabbath*) visited by the *Grand Signior*, by reason of its being so near his *Seraglio*, which is divided from the rest of the City by a lofty *Wall*, containing in circuit about three miles, wherein are stately Groves of *Cypresses* intermixed with delightful *Gardens*, artificial *Fountains*, variety of *Fruits*, and curious *Plains*. The Buildings are low, but rich and stately, with several fair Courts one within another; and to the South-side doth joyn the *Grand Signiors Palace*, in which are also several large Courts, and stately Structures. On the left hand of one of the Courts the *Divano* is kept, where the *Bassa's* of the Port administer Justice; out of the second Court is a passage into a third, into which *Christians* are not permitted entrance, but upon great favour: on the North-side stands the *Grand Signiors Cabinet*, in form of a stately *Summer-house*, having a private passage from his *Seraglio*; and from this place he takes *Barge* to delight himself on the Water. Not far from the *Palace* is a spacious place, encompassed with Houses, called the *Hippodrom* by the Ancients, and by the *Turks*, *Almidan*; where every *Friday* the *Spachies* of the Court play at *Giocho di Canni*, that is, they are mounted on Horses, and ride after one another, throwing Darts at each other, which they endeavour to avoid by their hasty turning.

The *Black Sea* is distant from *Constantinople* about 15 miles; it is much troubled with *Ice* in the Winter, neither is it so Salt as other *Seas*: and here the *Turks* forbid Traffick to Forreigners, there being no passage into it but by Rivers; neither this passage of the *Bosphorus* hath been always, but forced by violence of Streams that fell into the over-charged *Euxine*; where it rusheth into the *Bosphorus* there are two Rocks, formerly called *Cyaneæ* and *Symplegades*, so near, that at a distance they seem but one. Here upon the top of a Rock, encompassed with the Sea, stands a Pillar of white Marble called *Pompeys Pillar*; the *Bosphorus* is in length about 20 miles, but very narrow, the broadest place not exceeding a mile.

The Dispositions, Manners, &c. of the *Turks*.

Before I pass to the other Province in *Greece*, a word or two as to the *Manners*, *Dispositions*, *Religions*, &c. of the *Turks*. They are for the most part of a good complexion, full-bodied, proportionable, and of good statures; they keep the hair of their Heads shaved, only a lock on the hinder part; but their Beards they wear at full length, which with them is a sign of Gravity and freedom, they not allowing their *Slaves* to wear Beards; they are subtle, and of a quick wit, are generally very courteous to Strangers, but bear an inveterate

inveterate hatred against *Christians*; they are exceeding jealous of their Wives, denying them the liberty of the *Streets*, or going to their *Mosques*; their Salutations are with an inclination of the head and body, laying their hands on their bosoms; they use much Perfumes in their Garments, and all of them affect cleanliness so religiously, that besides customary Lotions, and daily frequenting *Baths*, they never so much as make water, but they wash their *hands* and *privities*, at which business they couch to the Earth, fearing their *Garments* should be defiled with any of their Excrements, which is held a pollution and hindrance to the acceptation of Prayer; and if they *bath* not twice or thrice a week, they are esteemed Nasty: they use not much exercise, loving a Sedentary life, but delight in riding; yet generally they have some Trade, which they imploy part of the day in, even the *Grand Signior*.

Their Food.

Their *Food* is gross, refusing all dainties for a piece of fat *Mutton*, which they boil in *Rice*; and with *Pease*, *Rice*, and *Mutton*, they make *Pottage*; they abstain from *Blood*, *Hogs-flesh*, and things *strangled*, neither care they for *Fish* or *Fowl*, which are here numerous and so gentle, that they will suffer themselves to be taken: they have neither *Tables* nor *Stools*, but sit upon the *Floor* (which is covered with *Tapestry*, or the like) cross-legg'd; their Dishes are made with feet, and their Spoons have long handles like Ladles. Their common drink is *Water*, also *Sherbet*, *Usaph*, but above all *Coffee*, which is held in great esteem. As to their *Sciences* and *Trades*, they are not over ingenious, nor knowing, contenting themselves with such as are necessary for them. By their *Law* they are exhorted to marry for the propagation of their *Religion*, every man being allowed four *Wives*, which must be of the *Turkish* Religion, besides as many *Concubines* (which are *Slaves*, and of any *Religion*) as he is able to keep; they buy their Wives of their *Parents*, recording the Contract; and in their *Nuptial Rites* they observe many *Ceremonies*, some of which I shall take notice of. The day before the *Marriage* is spent in *Feasting*, the Man his Friends, and the Woman hers, who at night bath and anoint her, and so depart till the next Morning, and then she is dress in her best Apparel; all things being ready, the Relations and Friends of the *Bridegroom*, who are all mounted on Horse-back, ride two by two to the *Brides* to conduct her to the *Bridegrooms*, who is also ready mounted and richly habited, according to his quality, to receive his never seen wife, who (after the *Nuptial Ceremonies* are performed) is conducted to the *Bride-Chamber*, where she is undrest and made ready for his enjoyment; the rest of the day is spent in feasting and merriment. By the Law, he is obliged to shew equal respect to all his *Wives*, and to give them due benevolence alike, and upon failure they may justly complain to the *Cadi*, who will grant her a Divorce; but the *Women* are little better treated than *Slaves*, giving their *Husbands* respect and reverence due to a Master, not sitting at meat with him, nor medling with Houshold affairs, nothing being required, but to please their Husbands, to live peaceably together, and to nurse their *Children*.

Their Religion.

Their *Religion* is contained in their *Alcoran*, made by *Mahomet* their Prophet; it is written in *Arabick* Rhime, and forbid by him to be written or read in any other *Language*; which said Book is so reverenced by them, that it is not touched with unwashed hands; they call it the *Book of Glory*, and *Guide to Paradice*. They believe in *God*, and hold *Jesus Christ* for a greater Prophet than *Moses*, but *Mahomet* for the greatest; they deny the *Divinity* of Christ, yet confess him to be the Son of the *Virgin Mary*; that he was conceived by the smell of a *Rose*, which the Angel *Gabriel* brought her, and that she bore him at her *Breasts*; that he was free from the Temptations of the *Devil* and Original sin: he is called in the *Alcoran*, the Word and Breath of God, said to raise up the *dead*, to give sight to the *blind*, to cure the *Lame*, to give speech to the *dumb*, to know the secrets of *hearts*, and that by his *Vertues* his *Disciples* wrought *Miracles*, and that he shall return to Judgment about 40 years before the end of the World to judge, save, and condemn *Christians*, as *Mahomet* shall do them. By their

The *Alcoran* now printed in *English*.

their *Law* they are obliged to pray ſeven times a day; their Sabbath is on *Friday*, which they ſtrictly obſerve, and are very devout at their worſhip; and at the doors of the *Moſques* they put off their Shoes, as a place too holy to defile with dirty Shoes; and the *Women* are not permitted to come into their *Moſques*, but have apartments for themſelves. They obſerve two Solemn times in the year, which are both *Lents*, one is called *Ramdan*, which continueth a Month, and the other *Byram*, which laſteth three days. They admit of no Hell for any, but thoſe who believe not *Mahomet*; but allow of a *Purgatory*, which holds but till *Dooms-day*, where in their *Graves* (which they ſay is the place of *Purgatory*) they are inflicted with pain by a bad *Angel*, whoſe fury is leſſened by a good one, according to the life the party led when living; and at the day of *Doom*, *Moſes*, *Chriſt*, and *Mahomet*, ſhall bring their ſeveral Followers to Judgment, and intercede for them; and that *Cain*, the firſt Murtherer, ſhall be the Leader of the *Damned*; and all ſhall receive the reward due unto them, the Juſt into *Paradice*, and the Damned into *Hell*, where they ſhall be tormented for ever; yet they hold a diſtinction amongſt the Damned, for thoſe that have committed no great *ſins* ſhall go into *Purgatory*, from whence they ſhall ſhortly be delivered. *Paradice*, according to *Mahomets* deſcription, is a place of all delight, where they ſhall have ſtately Palaces richly furniſhed, *Chriſtalline Rivers*, *Fields* and *Trees* alwaies in their verdure, whoſe *Fruits* ſhall be delightful to the taſt, and their ſhape pleaſing to the eye; under whoſe fragrant ſhades they ſhall ſpend their time with amorous and handſom *Virgins*; not ſuch as have lived in the World, but on purpoſe created for them, whoſe loſt *Virginities* ſhall daily be reſtored to them, and that they ſhall ever continue young, the Men at the Age of 30, and the Women at 15; and that Boys of Divine features ſhall adminiſter to them, and ſet before them all varieties of curious Meats.

Their Juſtice. Their *Juſtice* is grounded on their *Alcoran*, in which they obſerve this Rule, *To do as they would be done unto.* Their *Judges* for the moſt part are always *Eccleſiaſtical Perſons*, amongſt which there are many Orders, of which the chief is the *Mufty*, who decides great Caſes, and to him lie *Appeals*, and his Decrees the *Grand Turk* will not queſtion: then the *Cady*, who hath over him the *Moulacady*, or *Lord Chief Juſtice*. All the *Judges*, except the *Mufty*, are limited to ſet Precincts, and if they are found corrupt, are ſeverely puniſhed; the execution of their Juſtice is very ſevere and cruel, and very ſpeedy; and if the buſineſs be matter of *fact*, upon the leaſt complaint the *Parties* and *Witneſſes* are brought before the *Judge*, and according to evidence and Juſtice, gives his Sentence, which in few hours is executed; and a Falſe-witneſs, if convicted, ſuffers the ſame puniſhment as the accuſed ſhould have done, if found guilty.

Their Forces. The *Great Turk* is very powerful in his *Forces*; his *Infantry* are of two ſorts, the one raiſed out of *Towns* and *Cities*, and the other is the *Janizaries*, in which he puts the greateſt confidence. Their *Cavalry* are alſo of two ſorts, one the *Spahyglans*, from whom are choſen the Troops which guard the *Grand Signiors perſon*, and the other the *Spahy-Timariots*, which are ſuch as hold Land free from all Duties, in lieu of which they are obliged to furniſh him with 2, 3, 4, 5, 10, or more or leſs Men and Horſes at their own charge, as occaſion requires, according to the quantity of Land they hold; and beſides theſe there are other ſorts of Horſemen, who are *Volontiers*; ſome ſerving for devotion to gain *Paradice* by dying for *Mahomets* Cauſe, others ſerving for the gains of the booty and ſpoils of the Countries, and others to merit a *Timar*; and all are very expert in *Military affairs*. As for their *Sea Forces* they are but ſmall, as not much minding it, moſt of them being *Gallies*; yet are they often found troubleſom to *Chriſtians*.

Their Funerals. Concerning their *Funerals*, ſo ſoon as Life is departed ſeveral of their *Prieſts* are ſent for, who after they have performed certain *Ceremonies*, and deſired *God* to have mercy on their *Soul*, they waſh the *Corps*, and wrap it in Linnen, but not tie it neither at *head* nor *feet*, then lay it on a *Bier*, ſetting a *Turbant* at the upper end, and ſo carry it to the Grave; which for the poorer ſort

ſort are uſually made by *Highway-ſides* and in *Fields*, having two ſtones of white Marble, one at the head and the other at the feet, with an Inſcription concerning the deceaſed; but the better ſort have *Sepulchres* in their *Gardens*. As they are thus carried to their Graves, ſome of the *Dervices* go before with lighted *Tapers*, then follow the *Prieſts* ſinging, and after them their *Relations* and *Friends*: their *Graves* are boarded on the ſides and bottom inſtead of a *Coffin*, and being laid in, are covered with another board to hinder the Earth from falling, but high enough that one may kneel; for they hold that two terrible and black *Angels*, which they call *Gudequir* and *Mongir*, do immediately come to the *Grave* and unite the Soul to the Body, demanding how he hath lived; and if he gives them ſatisfaction they depart, and two white *Angels* come and protect him unto the day of Judgment, one ſitting at his head, and the other at his feet; but if he can give no good account of his life, then the terrible black *Angels* grievouſly torment him until the day of *Doom*. A *Purgatory* is ſo obnoxious unto them, that in their *Mattins* they beſeech God to free them from the examination of thoſe terrible black *Angels*, as alſo from the puniſhment of the Grave, and their evil Journey. But to proceed to the other Provinces in *Greece*.

Province of *Macedonia*. The Province of *MACEDONIA* is at preſent ſevered into three parts, *viz.* into the Territory of *Jamboli* towards the North, whoſe chief places are *Heraclea*, *Bylazora*, *Joro*, and *Sydero-Caſpæ*, famous for its rich Mines of *Gold* and *Silver*. The ſecond part is *Camenolitaria*, being its Southern parts, and on the borders of *Theſſaly*; its chief places are, 1. *Pidna*, ſeated on the influx of the River *Alaicmon*, which Town was beſieged and took by *Caſſander*, in which Siege he took *Olympias* the Mother, *Roxane* the Wife, and *Hercules* the Heir of *Alexander* the Great; all which he put to death. 2. *Pella*, ſeated on the ſame ſhoar, the Birth-place of the ſaid *Alexander*. 3. *Ediſſa*, and 4. *Scydra*, both Midland Cities. The third part is called *Migdonia*, or the particular *Macedonia*, lying in the midſt of the Province; its chief places are 1. *Salonichi*, anciently called *Theſſalonica*; to the People of which City St. *Paul* wrote two of his *Epiſtles*; it is ſeated on the *Egean* Sea, is very populous, inhabited with *Chriſtians*, *Turks*, and *Jews*; but chiefly with the laſt, who are here more numerous than in any other part of *Turkey*, and is a place of great Commerce, and is the faireſt and richeſt City in all *Macedonia*. 2. *Stagira*, the Birth-place of *Ariſtotle*; 3. *Pallene*, ſacred to the *Muſes*; and 4. *Neopolis*, on the confines of *Romania*.

Province of *Albania*. The Province of *ALBANIA* lieth on the *Adriatick* Sea, famous for being the Country of that eminent and brave Souldier *George Caſtriot*, called by the *Turks Scanderbeg*; its chief places are 1. *Durazzo*, a place of great ſtrength. 2. *Valona*, a good City ſeated on the Sea-ſhoar, oppoſite to *Otranto* in *Naples*. 3. *Croja*, under whoſe Walls *Amurath* the Second, that damned wretch, finiſhed his wicked life. 4. *Scutari*, or *Scodra*, famous for its reſiſting the *Turks*: and 5. *Belgrado*; and 6. *Albanopoli*.

Province of *Theſſaly*. The Province of *THESSALY*, now called *JANNA*, is a Country no leſs fertil than pleaſant; it lieth South of *Macedonia*, and is famous firſt for the Hill *Olympus*, which for its height, is by the *Poets* taken for Heaven; then for its pleaſant Vale of *Tempe*, called the *Garden* of the *Muſes*: and thirdly, for the *Pharſalian* Fields, where the Empire of the World was diſputed in two great Battles; the one betwixt *Cæſar* and *Pompey*, and the other between *Brutus* and *Caſſius* on the one ſide, and *Anthony* and *Auguſtus* on the other. The chief places in this Province are, 1. *Armiro*, now the Seat of a *Turkiſh Sangiac*. 2. *Lariſſa*, ſeated on a fair River, which at a ſmall diſtance falls into the Gulph of *Salonichi*. 3. *Tricca*, and *Pharſalis*.

The

Province of *Epirt.* The Province of *EPIRE*, now called *CANINA*, is very Mountainous, hath for its chief places (poſſeſſed by the *Turks*) *Praveza* and *Larta*, both Sea-Towns; and the chief places in the *Venetians* poſſeſſions, are *Torre de Butrinto* and *Perga*, both Sea-Towns and places of good account; oppoſite and nigh to which is the Iſle of *Corfou*. In this Province is Mount *Pindus*, ſacred to *Apollo* and the *Muſes*; and here are alſo the *Acroceraunean* Hills, ſo called for their being ſo ſubject to *Thunder-claps*.

Mount *Pindus.*

Province of *Achaia.* The Province of *ACHAIA*, now called *LIVADIA*, waſhed on the Eaſt with the *Ægean* Sea; it is divided into theſe parts, *viz. Ætolia*, *Attica*, *Bæotia*, *Locrie*, *Megaris*, *Doris*, and *Phocis*, in which parts are ſeveral good Cities and Towns; amongſt which are 1. *Athens*, now *Sitines*, more famous for its Antiquity than any thing elſe, being now ſcarce any other than a *Fiſhers Town*; but formerly a large, rich and ſtately City, the Nurſery of Learning, and a place from whence all *Arts* and *Sciences* ſpread themſelves all over *Europe*. 2. *Thebes*, now *Stives*, ſeated on the River *Cephiſus*; famous for the Wars here made between *Polynices*, and *Eteocles*, Sons to Prince *Oedipus*; it was ſack'd by the *Macedons*, after which it was re-edified by *Caſſander*, but of no account nor beauty to what it was formerly. Next to this City are the Streights not above 25 foot broad. 3. *Lepanto*, chief of *Ætolia*, ſeated in the bottom of a Gulph ſo called, and where *Auguſtus* and *Anthony* fought for the Empire of the World; and where more lately was that ſignal Battle between the confederate *Chriſtians* and the *Turks*. This City enjoyeth a good Trade, and affordeth ſeveral good Commodities, as *Silk*, *Oils*, *Cottons*, *Galls*, *Anniſeeds*, *Wax*, *Hony*, *Currans*, *Wines*, &c. 4. *Marathon*, of note for the Victory of *Miltiades*, gained againſt the powerful Army of *Darius*, which conſiſted of 100000 Foot, and 10000 Horſe. 5. *Megara*, where *Euclid* taught *Geometry*. 6. *Platea*, nigh to which was fought an exceeding great Battle between the *Grecians* and the *Perſians*. 7. *Delphos*, famous for the Temple of *Apollo*, which was deſtroyed by the *Phocians*, who took from it 60 Tuns of *Gold*. 8. *Sparta*, formerly of great Account; and 9. *Micenæ*, famous for the Temple of *Juno*, as alſo for the habitation of *Agamemnon*. Nigh to this City was the Lake of *Lerna*, where *Hercules* ſlew the *Lernian* Seven-headed *Hydra*. In this Province is the famous Temple of *Æſculapius*; where is alſo the Mount *Helicon* and *Parnaſſus*, much famouſed by the *Poets*; and here are alſo thoſe pleaſant *Arcadian Plains*, and the places where the *Olympian Games* were ſolemnized, with ſeveral other memorable places of Antiquity.

Peloponneſus, or the *Morea.* *PELOPONNESUS*, now called *MOREA*, is a *Peninſula* bounded with the Sea, except where it joyneth to *Achaia* by an *Iſthmus* of about ſix miles in breadth; the whole *Peninſula* is about 600 miles in compaſs, and contained once many flouriſhing Provinces, as *ARCADIA*, *ARGORIS*, *ACHAIA PROPRIA*, *ELIS*, *LACONIA*, and *MESSENIA*; but at preſent it is one ſole *Turkiſh* Province. The People were accounted the chief of all the *Grecians*, and gave Rules to the reſt as ſubordinate unto them. The chief places are, 1. *Corinte*, ſeated at the foot of the *Acrocorinthian* Hills, hard by the Fountain *Pyrene*; a ſmall Town, and of little note to what it was, being out of the ruins of the ancient and famous *Corinth*; which was a place of great ſtrength and power. 2. *Miſiſtra*, once of good account: 3. *Thalana*, nigh unto which is Mount *Tenarus*, from whence *Hercules* drew *Cerberus*; as alſo the Lake *Lerna*, where the ſaid *Hercules* ſlew the Monſter *Hydra*. 4. *Sebaſſia*, where *Antigonus* vanquiſhed *Cleomenes*. 5. *Nemæa*, where *Hercules* ſlew the *Lions*: 6. *Olympea*, very famous for the Statue of *Jupiter Olympicus*, which was 60 Cubits high, and of a proportionate thickneſs, being made of *Gold* and *Ivory*; and in honour to this *Jupiter* were the *Olympick Games* inſtituted by *Hercules*, and performed on the Plains of this City. 7. *Megalopolis*, the Birth-place of that eminent Hiſtorian *Polybius*. 8. *Mantinea*, nigh unto which the *Theban* Army, which conſiſted of 30000 Foot and 3000 Horſe routed the Army of the *Athenians* and *Spartans*, which conſiſted

conſiſted of 2000 Horſe, and 25000 Foot, where that gallant Leader *Epaminondas* received his deaths wound. 9. *Lacedemon*, 10. *Argos*, 11. *Thebes*, now ruinated; but the chief places for Traffick now remaining, are 12. *Modon*, 13. *Petras*, and 14. *Coron*, all three Cities ſeated on the Sea-ſhoar, ſubject to the ſame Cuſtoms, and found to afford divers good Commodities, the product of *Turkey*.

The ISLES ſeated in the GRECIAN *or* ÆGEAN, IONIAN *and* ADRIATICK *Seas.*

IN theſe *Seas* there are ſeveral *Iſles*, many of which are of good note, and well frequented by *Merchants*; moſt of which are in part, if not altogether in the poſſeſſion of the *Grand Signior*; yet the *Venetians* are not quite expunged. But the *Turk* hath divided all or moſt of them into eight *Beglerbyats*, and 60 and odd *Sangiacats*, that is, into general and particular Governments.

The ÆGEAN *or* GRECIAN *ISLES.*

The chief of the *Ægean Iſles* are 1. *NEGROPONTE*, in the power of the *Turks*, in circuit 365 miles; Its chief places are 1. *Negroponte*, ſeated in a Gulph ſo called; 2. *Cariſto*, and *Dion*, a Sea-port Town. Iſle of *Negroponte.*

2. *STALIMENE*, of old *LEMNOS*, about 100 miles in circuit, well peopled by *Grecians*, except three Towns which the *Turks* keep ſtrongly fortified to keep them in awe. Its chief Town is *Lemnos*, or *Mirina*, but of no great note. Here is a Sovereign *Mineral* againſt infection, called *Terra Sigillata*; the Earth thereof is made into ſmall Pellets, and ſealed with the *Turks* Stamp, and ſo diſperſed and ſold to Merchants for an excellent Antidote. Iſle of *Stalimene.*

3. The *SPORADES* and *CYCLADES* are a great body of ſeveral ſmall *Iſles* diſperſed about this *Sea* or *Archipelago*, and lie ſo thick, that they oft-times become dangerous to *Sea-men*, eſpecially in Storms. The chief of theſe Iſles are, 1. *Milo*, ſo called for its abounding in *Hony*; it is about 60 miles in compaſs, very fertil, and affordeth ſtore of *Grain* and *Oil*, but no *Wine*: its chief place is ſo called. 2. *Tira*, 3. *Tireſio*, 4. *Nio*, 5. *Stapalia*, about 50 miles in circuit, whoſe chief place is ſo called. 6. *Morgo*, 7. *Nicſia*, about 75 miles in compaſs. 8. *Livila*, 9. *Zinara*, 10. *Raclia*, 11. *Siphano*, 12. *Micone*, 13. *Teno*, 14. *Helena*, 15. *Engia*, in a Gulph ſo called; all ſmall Iſles. 16. *Fermenia*, about 60 miles in circuit. 17. *Zea*, about 50 miles in compaſs. 18. *Andri*, about 80 miles in compaſs, not far from *Negroponte*, and is found to afford the ſame Commodities; its chief place bears the ſame name. 19. *Cos*, more towards *Aſia minor*, whoſe chief Town is ſo called, and is inhabited by *Turks*, but the reſt by *Grecians*. In this Iſle was born *Apelles*, that famous *Painter*; as alſo *Hippocrates*, that revived Phyſick when it was loſt; and here *Æſculapius* had his *Temples* and *Altars*, where he was worſhipped. 20. *Delos*, famous for the *Temple* of *Apollo*, as alſo for a Cuſtom here uſed, not to permit the birth of Children, nor dying of People, being ſent to *Rhena*, an Iſle not far diſtant. 21. *Namfio*, 22. *Policandro*, 23. *Pira*, 24. *Chiero*, 25. *Pergolo*, 26. *Serphino*, 27. *Parso*, 28. *Sirna*, and 29. *Sidrille*; all ſmall Iſles of little note. Iſles of *Sporades* and *Cycladeſ.*

4. *CANDIA*, or *CRETA*, (now in the *Turks* poſſeſſion) an Iſle ſeated in the Mouth of the *Ægean Sea*, in compaſs about 590 miles, of a fertil Soil, and affordeth to Merchants ſeveral good Commodities; but *Corn* is not over plentiful, which defect is ſupplied from *Peloponneſus*. It is Iſle of *Candia.*

very populous, and hath many good Towns; the chief of which are 1. *Candia*, the Bulwark of *Christendom*, till lately gained from the *Venetians*; in which Siege it was ruinated, being before a good City. 2. *Suda*, a Maritim Town, enjoying a commodious Haven, which by the *Turks* is well fortified and defended by two *Castles*. 3. *Canea*, and 4. *Sittia*. In this Isle lived *Strabo*, that famous *Cosmographer*.

Isle of *Samothracia*.

5. *SAMOTHRACIA*, a small Isle, of note for being the Birth-place of *Samo*, one of the *Sybils*; and *Pythagoras*, that Divine *Philosopher*.

Isles of *Sciro*, *Schiati*, *&c.*

6. In the *Ægean Isles*, or *Archipelago*, are these Isles, 1. *SCIRO*, Northwards of *Negroponte*, from which it is not far distant. 2. *SCHIATI*; 3. *PELAGMISI*, towards the Gulph of *Salonichi*. 4. *TASSO*, a small Isle, seated in the entrance of the Gulph of *Contessa* in *Macedonia*: and 6. *LENIBRO*, also a small Isle, not far from *Lemnos*.

The IONIAN *ISLES.*

Isle of *Zante*.

The principal of the *IONIAN Isles*, are 1. *ZANTE*, about 50 miles in circuit, and about 7 Leagues from *Peloponnesus*, under the obedience of the *Venetians*; it is wonderful fruitful in *Oils* and *Wines*, but especially in *Currants*. The chief City bears the name of the Isle, a place not very large nor beautiful, but fortified with a strong *Castle*, which commandeth not only the *Town* and *Harbour*, but a good part round about it. The Isle is much troubled with *Earthquakes*, in regard of which they build their Houses very low.

Isle of *Zephalonia*.

2. *ZEPHALONIA*, about 120 miles in compass, of a fertil Soil, and affords the same Commodities as *Zante*; but the *Currants* are smaller, and not so good. Its chief place bears the name of the Isle. 2. *Augustali*, 3. *Guiscardo*, and 4. *Nollo*.

Isle of *Corfu*.

3. *CORFU*, about 50 miles in length, and 24 in breadth, seated 12 miles from *Epirus*, and very convenient for the *Venetians*, who are the Masters of it, being in the Center of their Maritim Territories. It is fruitful in *Oil*, *Hony*, *Wax*, and some other Commodities; its chief City is so called, and is now reputed to be one of the Bulwarks of *Christendom*, and the Key of the *Venetian* State, being held impregnable, oft-times having resisted the fury of the *Turks*. It is seated at the foot of a Mountain, on the Summit of which are built two strong *Castles*, seated on high Rocks, which are as strongly fortified; the other place of note are *Castello*, *St. Angelo*, and *Pagiopoli*.

Isle of *Cerigo*.

4. *CERIGO*, 60 miles in compass, about five miles from *Cape Malo* in the *Morea*. It is defended by Rocks, which in themselves are inaccessible, out of which the Inhabitants take abundance of *Marble*: it hath many Havens, but none commodious for Shipping. Its chief Town bears the same name, where was formerly a Temple dedicated to *Venus*, out of which *Helena* the wife of *Menelaus* was ravished, and stoln by *Paris*.

Isle of St. *Maura*.

5. *SAINT MAURA*, where stood a Temple dedicated to *Apollo*, where Mad-brain'd and unfortunate Lovers were cured of their phrenzies, by casting themselves head-long into the Sea. Its chief place bears the name of the Isle, and is inhabited by *Jews* that were driven out of *Spain*; and this of all the *Ionian* Isles is under the *Turks* obedience.

6. *STRI-*

Isles of *Strivalis*.

6. *STRIVALIS*, seated opposite to *Messina*, two small Isles of no great account, inhabited by some few *Greek Colonies*, or *Fryars*, who never go out of the Isles; neither do they permit Women amongst them, but as they die, have a new supply; they live by their labour, their diet is on *Herbs*, *Roots*, *Oil*, *Olives*, and the like. *Flesh* they are denied, but may eat *Fish* sometimes.

Isle of *Val de Campara*.

7. *VAL DE CAMPARA*, about 56 miles in compass, Northwards of *Zephalonia*, famous for the Birth place of *Ulysses*. This Isle affordeth those Commodities that are found in *Zant*, and the *Currants* are the best and fairest, but in less quantities.

The ADRIATICK *ISLES.*

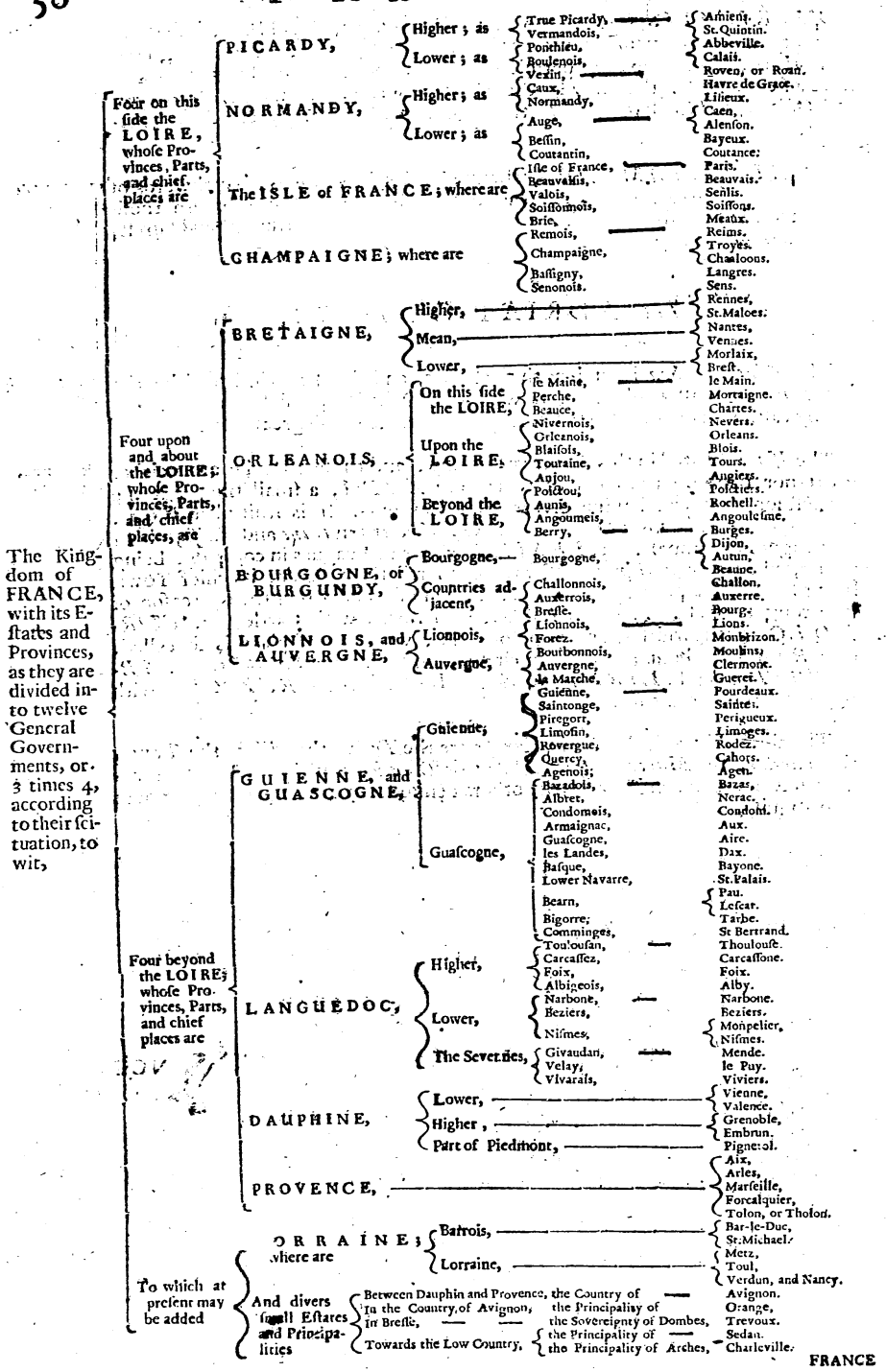
The *Adriatick*
Isles.

The *Adriatick Sea* is in length 700 miles, and about 140 in breadth; the *Venetians* are Masters of them, to whom the Duke is espoused every *Ascension day* by casting in of a Ring; a Ceremony performed with great state.

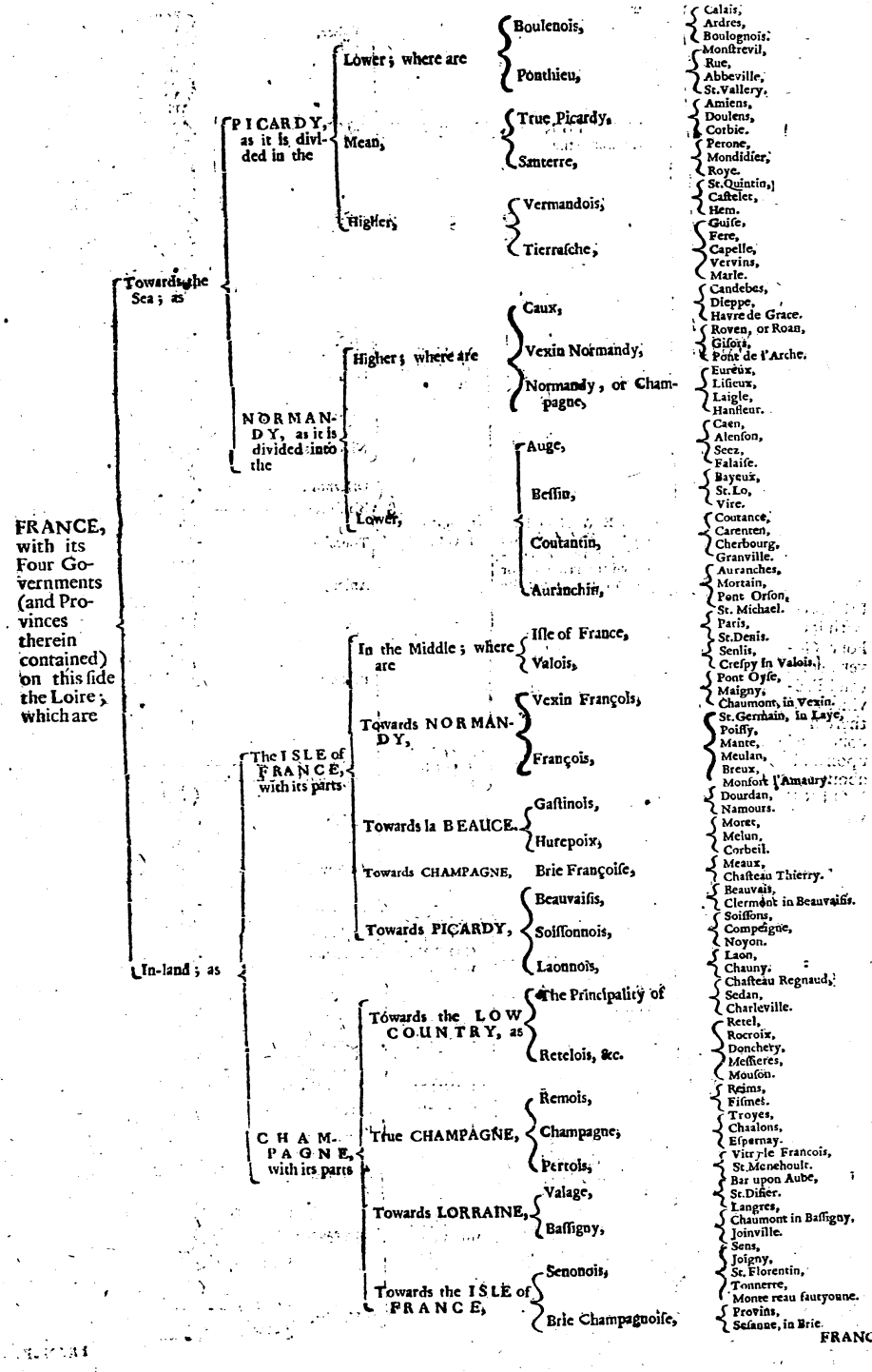
Isles of *Zara*, *Vegia*, *&c.*

The *Islands* seated in this *Sea* are not many, and those that be are neither great nor famous; the chief of which are *ZARA*, a small Isle, but the chiefest for Traffick, having divers good Harbours. It is fruitful in *Wines*, *Grains*, *Cattle*, and some *Oils*. 2. *VEGEA*, fertil in *Wine* and *Pulse*, about 10 Leagues in compass. 3. *LESINA*, about 50 Leagues in compass, being the largest of all the *Adriatick Isles*, very fertil throughout; its chief Town being so called, a place though unwalled, yet of good strength, by reason of its strong Fortress. 4. *CHERSO*, well stored with Cattle. 5. *CURZOLO*, a fair, fruitful, and populous Isle, whose chief place is so called. 6. *GRISSA*, about 100 miles in circuit, an Isle rich in *Salt-pits*. 7. *ABSIRTIDES*; 8. *LISSA*; 9. *ARBE*; and 10. *BRAZZIA*, with some others of no great note.

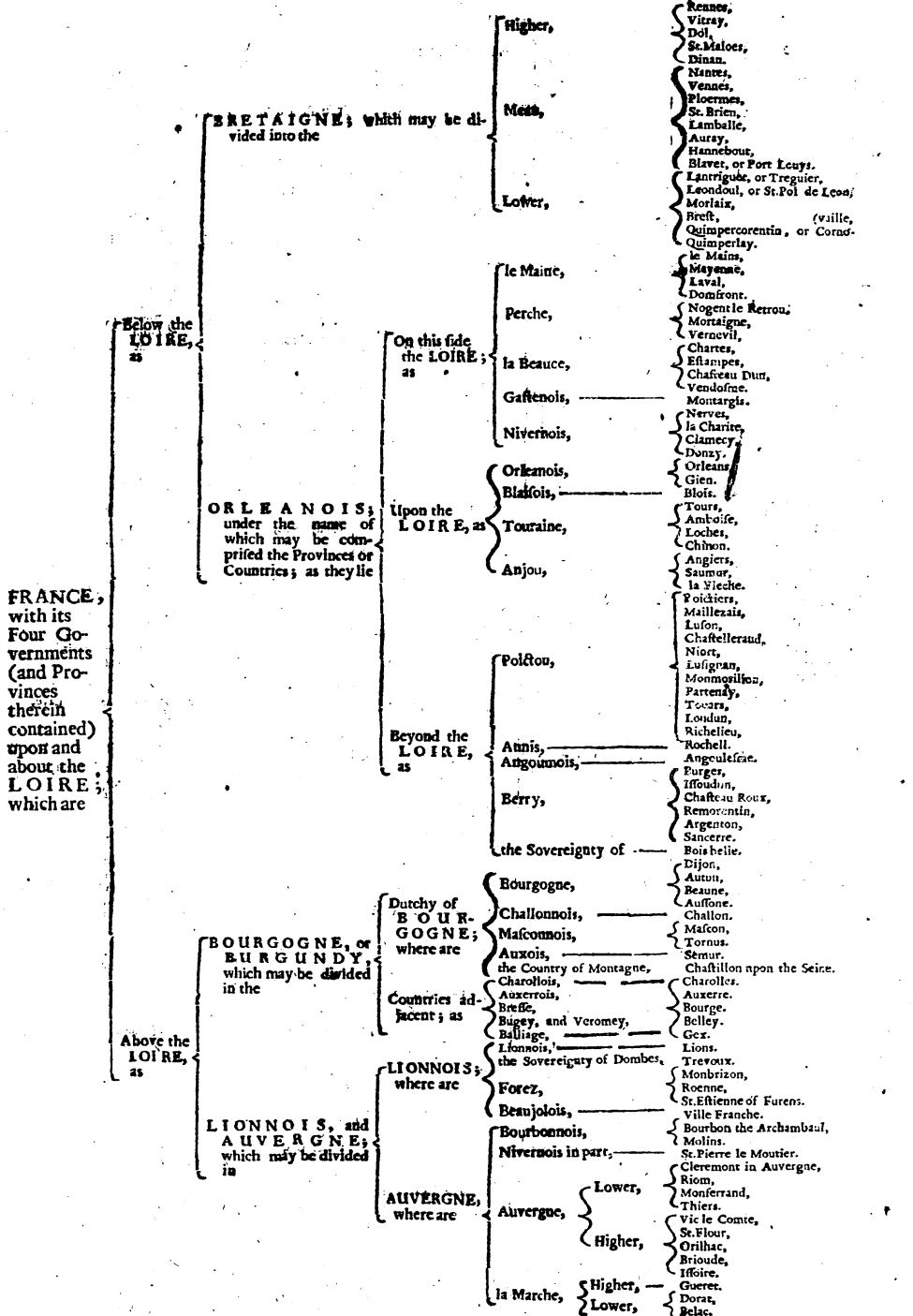
The chief Rivers in *Turkey* in *Europe* are the *Drin*, the *Alsea*, the *Penea*, the *Wardar*, the *Mariza*, and the *Don*, or *Danube*, which of all others is the strongest and most considerable; the others being, for the most part, only famous in Antiquity.



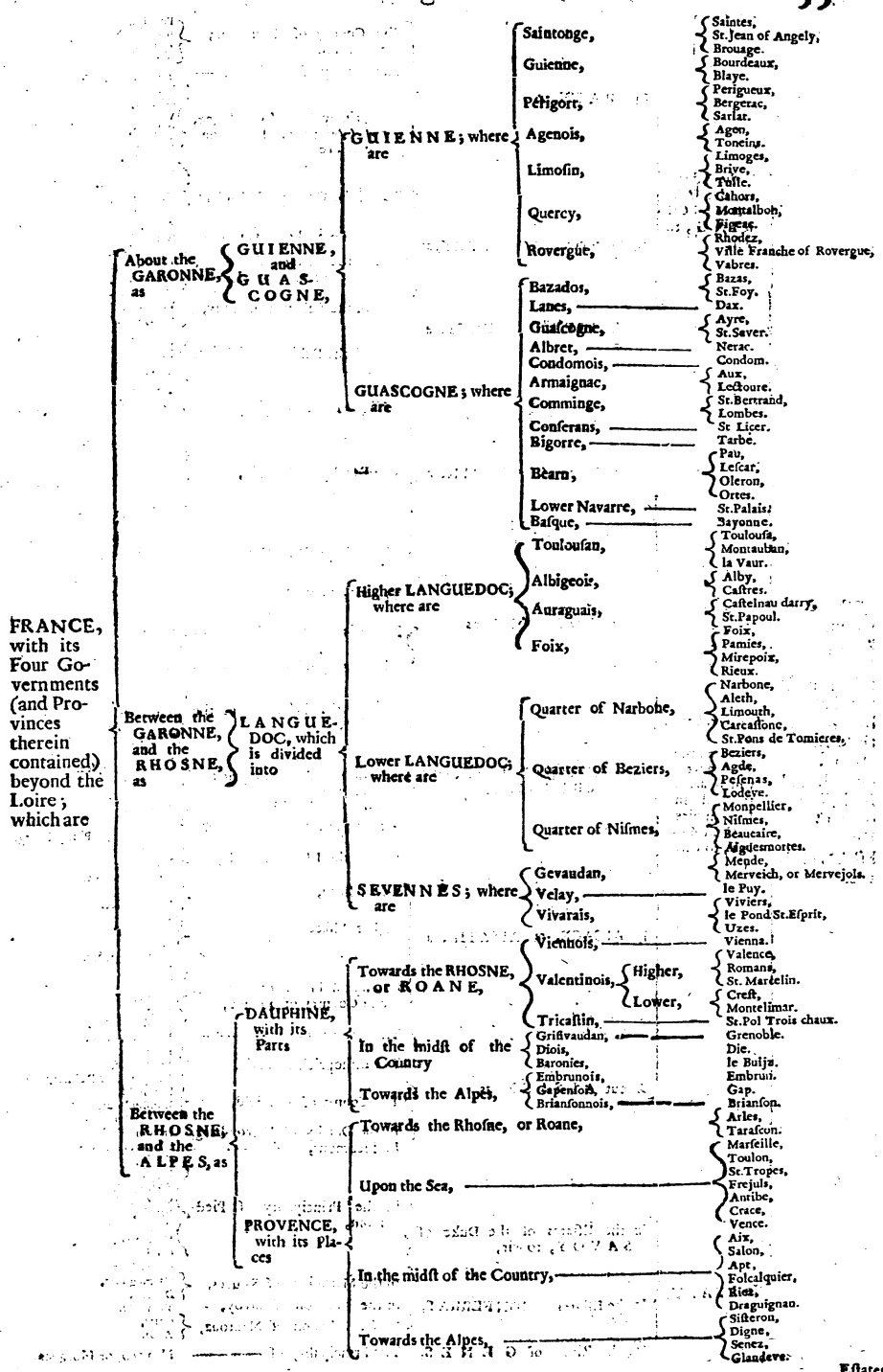
FRANCE



FRANCE



FRANCE



Eſtates,

Estates, Counties, Bishopricks, Cities, &c. taken and purchased by (and in the Protection, Guard, and Possession of) the King of FRANCE, *viz.*

- In the Estates of the CATHOLICK KING, to wit,
  - In SPAIN, as
    - The County of Roussillon; where are: Perpignan, Elne, Collioure, Salces, &c.
    - The County of Cerdagne, — Puy, Cerda, &c.
    - The Principality of Catalogne, and County of Barcelone; where are: Barcelona, Girona, Vich, Solsona, Urgel, Manresa, Cardona, Cadegues, &c.
  - In the LOW COUNTRY, as
    - Part of the County of Flanders, Gravelines, Watten.
    - Part of the County of Artois, Arras, Hesdin, Bappaumes.
    - Part of the County of Haynaut, Landrochy.
    - Part of the Dutchy of Luxemburg, Thionville, Damvillers.
  - In the FRENCH COUNTY, as
    - Part of the Balliages of Gray, Vesoul, Lure, &c.
    - Part of the Balliages of Salins, Arbois, Poligny, Bletterans, St. Amour, Joux, &c.
- In divers Lands and Principalities, the most part of which are esteemed in the Empire of GERMANY, to wit,
  - In the Estate of LORRAIN, as
    - The Dutchy of Barrois, Barle Duc, Ligny, St. Michael, Pont a Mousson.
    - The Dutchy of Lorrain, Nancy, Mirecourt, Newchastel on the Meuse, Dieuze, Sirke, &c.
    - The Bishoprick of Metz, Vic, Moyen-Vic, Marsal, St Avold, Albersstroff, Espernay.
  - About LORRAIN, as
    - The Principality of ——— Sedan.
    - The Principality of Arches, or Charleville, Clermont, Stenay, Jametz.
    - The County of ——— Biche.
  - In and about the PALATINATE of the RHINE, as
    - Part of the Palatinate of the Rhine, Bacharach, Creutznach, Altzheim, Oppenheim, Neuffar, Landau, Germersheim, &c.
    - Part of the Archbishoprick of Mayence, Mayence, Bingen, &c.
    - Part of the Bishoprick of Wormes, Wormes.
    - Part of the Bishoprick of Spire, Spire, Udenheim, or Philipsbourg.
    - Part of the Estate of Bade, Baden, Durlach, Pfortzheim, &c.
  - In ALSACE, or ALSATIA, as
    - Low Alsace, Haguenau, Saverne, &c.
    - Higher Alsace, Colmar, Schlestat, Brisach, Newbourg, &c.
    - County of Pfirt, or Ferrette, and Country of Sungou, Ferrette, Tannes, Befort, Blome, Landferon, &c.
  - About ALSACE, as
    - The County of ——— Montbeliard, &c.
    - The Bishoprick of Basle, Porentru, St. Ursane, Dalsperg, or Delmont, &c
    - The County of Reinfield, Reinfield, Lanffenbourg, Waldstrout.
    - In the Dutchy of Wirtenberg, Hohen-Viel.
    - In Piedmont, ——— Pignerol, &c.
- In ITALY,
  - In the Estates of the Duke of SAVOY, to wit,
    - In the Principality of Piedmont, Turin, Suze, Avigliane, Chivas, Sanja, Ast, Quierasco, Coni, Caours, &c.
    - In the Marquisate of Saluces, Carmagnole, Demont.
  - In the Estates of MONFERRAT, viz.
    - In the Dukedom of Savoy, — Trin, &c.
    - In the Dukedom of Mantoua, Casal, Aqui.
  - On the River of GENES, The Principality of ——— Monaco, or Morgues.



A GENERALL MAPP of the KINGDOM of FRANCE. Designed by Monsieur Sanson, Geographer to the French King.

FRANCE.

FRANCE is esteemed the most fertil and powerful Kingdom in *Europe*, and the best, next to *England*, that can subsist without the help of others. It is seated about the 45*th degrees* of *Latitude*, which is in the midst of the *Temperate Zone*. It is washed on the East with the *Rhine*, together with an imaginary line drawn from *Strasburgh* to *Calais*; on the South by the *Mediterranean Seas*, and opens a passage to the *Northern Ocean*; on the West by the *Aquitain Sea*; and on the North by the *British Ocean*. It extends it self from the 42 *degrees* of *Latitude* unto the 51, and from the 15*th* of *Longitude* to the 29*th*, which makes its length and breadth to be above 200 *French Leagues*. It is contiguous to the *Low Countries* on the North, to *Germany* and *Italy* on the East, and to *Spain* on the South. Its Situation. Its Bounds.

It is of an extraordinary fertil Soil, affording three excellent and useful Commodities in great plenty, *viz. Corn*, *Wine*, and *Salt*; also *Oil*, *Almonds*, *Paper*, *Canvass*, *Linnen*, both fine and course, *Oade*, *Corral*, *Skins*, *Nuts*, *Stuffs*, and several Manufactures, Toies, and Curiosities. It is very plentiful in all Provisions. Its Soil and Commodities.

It is exceeding populous and crouded with *Towns* and *Cities*, once numbring 100000 *Parishes*, which are now reduced to a less number. The *People* are well proportionate, and indifferent handsom, especially the *Men*; they are of a ready and Mercurial wit, of a courteous Behaviour, of a hot Brain, and soon moved to Broils; they are very active, and given to Exercises; in weighty Affairs, both *Civil* and *Martial*, they are not over subtle, their first attempt being like *thunder*, and their end like *smoak*. In matters of Religion they generally follow the Church of *Rome*, in which they are not over strict. Its People.

It would be too tedious to observe all the different *Orders* and *Governments* in this Kingdom; we will content our selves to say, that in the Assemblies of the General Estates, where the *Nobility*, *Clergy*, and *third Estate*, have their Seats, it is divided into twelve several Governments, of which four are on this side, or if you please, Northwards of the *Loire*; four upon and about the *Loire*, and four beyond the South of the *Loire*.

The four on this side are *Picardy*, *Normandy*, the Isle of *France*, and *Champaigne*; the four about the *Loire* are *Bretaigne*, *Orleance*, or *Orlenois*, *Bourgogne*, or *Burgundy*, and *Lionois*; and the four beyond the *Loire* are *Guienne* and *Gascoigne*, *Languedoc*, *Dauphin*, and *Provence*. In each Government are several Parts or Countries, which are taken notice of in the *Geographical Tables* of the Kingdom, of which in order.

PICARDY is divided into the Higher and Lower, in both of which are divers good Towns; in the Lower are 1. *Calais*, called by *Cæsar*, *Portus Iccius*, held by the *English* near 200 years, and was then esteemed the Key of the Kingdom; it is esteemed one of the best Ports in *Picardy*, seated opposite to *Dover* in *England*, from which it is distant about eight Leagues, once a place of great Trade, as being the Staple of *English Wools*; now only of note for its being the receipt of Passengers from this Kingdom to *England*, to Government of *Picardy*.

and fro. 2. *Bulloigne*, a ſtrong Frontier Town, towards the Sea. 3. *Abbeville*, alſo a ſtrong Frontier Town. In the higher *Picardy* are, 1. *Amiens*, a Frontier City towards *Flanders*, well fortified, and famous for the ſudden loſs, and as ſudden and brave regaining it by *Henry* the *Fourth*. 2. *St. Quintin*, a ſtrong Frontier Town.

Dukedom of *Normandy*.

NORMANDY, well watered with *Rivers*, amongſt which are the *Seine*, *Anon*, and *Orne*. It is well garniſhed with *Cities* and *Towns*, many of which are commodiouſly ſeated for Trade, by reaſon of their vicinity to the *Britiſh Ocean*; the chief of which are, 1. *Roan*, its Metropolis, ſeated in the higher *Normandy*, on the banks of the *Seine*, over which there is a famous Bridge of *Boats*. Here is held one of the *Parliaments* of *France*, and it is a place of as great Trade as any in *France*, being one of the three principal *Towns*, where *Exchanges* are uſed. Here the *Engliſh* have a publick Hall allowed them for the ſale of *Engliſh Woolen-cloth*, to which place at certain days they are conſtrained to expoſe them to ſale. 2. *Havre de Grace*, or *New Haven*, the ſtrongeſt place in all *Normandy*. 3. *Dieppe*, alſo a City of ſome Trade, being a common Landing-place for the *Engliſh* in their paſſage into *France*. 4. *Caen*, famous for its long reſiſtance of *Henry* the Fifth of *England*. 5. *Falais*, once a ſtrong Town: here it was that Duke *Robert* paſſing through ſaw ſome Maids a dancing, amongſt which was one *Arlet*, a *Skinners* Daughter, who ſo nimbly footed it, that his deſires were to enjoy her, thinking ſhe would be as active in the Bed; whereupon he ſent for her, and obtained his deſires; in which ſhe ſo pleaſed him, that he begat on her *William* the Baſtard King of *England*, in ſpight to whom, and diſgrace to his Mother, the *Engliſh* call Whores, *Harlots*. 6. *Charenton*, famous for the Preaching of that eminent Divine *Peter du Moulin*: and 7. *Conſtance*.

Iſle of *France*.

The *Iſle* of *FRANCE*, made ſo by the circlings and confluences of the *Seine* and other little *Brooks*: It lieth in the heart of all *France*, where we ſhall find not only its particular glory, but that of all the Kingdom, to wit, City of *Paris*. *Paris*, which for its *Riches*, *Power* and *number* of Inhabitants, may juſtly contend with any in *Europe*. It is about 12 miles in circuit, if all the *Suburbs* are reckoned, and in form rather round than oval; ſeated on the *Seine*, and in a Soil ſo fertil, that not many Cities know ſo great plenty. It is of no great ſtrength, nor of much conſequence in matter of Trade, only contenting themſelves with enough to ſerve the Inhabitants and Court; yet in matter of *Coin* it giveth rule to all Cities in *France*, and is another of the three Cities where *Exchanges* are placed; a convenience for the *Nobility*, *Gentry*, and *Courtiers*, as alſo for *Strangers*. The chief ornaments of it are the Palace of the *Louvre*, ſo much famouſed abroad; beſides ſo many *Palaces* of the Nobility, amongſt the reſt that of *Luxembourgh*, its *Palace-Royal*, its Church of *Noſtre Dame*, its *Univerſity*, formed by *Charlemain* in *Anno* 800, eſteemed the firſt in *Europe*, containing 55 *Colledges*, and particularly the Colledge of the *Sorbona*; alſo the Halls of *Juſtice*, or Courts of *Parliament*, being as our Courts of *Judicature*, are all remarkable. Next to this City may be reckoned, in *St. Dennis*, about three miles from *Paris*, famous for the Sepulchres of the *French* Kings. 2. *Pont-oyſe*; 3. *Meaux*; 4. *Beauvais*, and 5. *Noiſſons*. In this Province is the beautiful Houſe and Foreſt of *Fontaine Bleau*, built by *Henry* the Fourth, eſteemed not only one of the faireſt Palaces in all *France*, but of *Chriſtendom*; here is alſo ſeated the Royal Manſion of St. *Germains* and *Boys de Vincennes*, where the puiſſant *Henry* the Fifth finiſhed his days. In this Province is the Dukedom of *Valois*, whoſe chief places are *Luzarch* and *Senlis*: This Country abounds in *Vineyards*, which yields the ſharp Wine called *Vin de Paris*.

Province of *Champaigne*.

CHAMPAIGNE, ſo called from being a Champain Country; its chief places are, 1. *Rheims*, famous for being the place where the Kings of *France* are uſually Crowned, and anointed with an Oil here kept, which they ſay came

came down from Heaven, and never decreaſeth; and here is a Colledge for *Engliſh Jeſuits*. 2. *Chaaloons*, 3. *Langres*, 4. *Sens*, and 5. *Troyes*, all places of ſome account.

Province of *Britany*.

BRETAIGNE, or *Britanny*, whoſe chief Port-Towns are *Breſt*, *Blavet*, and St. *Malos*; and within Land the Cities of 1. *Nantes*, ſeated on the *Loire*. 2. *Rennes*, where the Parliament for this Province is held. 3. *Vennes*, ſeated on the South-Sea. 4. *Breine*; and 5. *Morlaix*, of note for its great ſtore of Paper ſo called.

Under the Government of *ORLEANS*, or *ORLEANOIS*, we comprehend divers *Provinces* on this ſide, upon, and beyond the *Loire*, *viz.*

Province of *Maine*.

MAINE, whoſe chief places are, 1. *Maine*, ſeated on the River *Maegnue*, which diſchargeth it ſelf into the *Loire*: 2. *Mayenne*, 3. *Laval*, and 4. *Domfront*.

Province of *Perche*.

PERCHE, on the borders of *Normandy*, hath for its chief places *Nogent le Retrou*, *Mortaigne*, and *Vernevil*; which by ſome are eſteemed in *Normandy*.

Province of *la Beauce*.

LA BEAUCE hath for its principal places, 1. *Chartes*, ſeated on the *Loire*, a fair and pleaſant City, dignified with an *Univerſity* for the ſtudy of the Civil Laws. 2. *Eſtampes*, 3. *Chaſteau Dun*, and 4. *Vendoſme*.

Province of *Gaſtenois*.

GASTENOIS hath for its principal place *Montargis*.

Province of *Nivernois*.

NIVERNOIS, or *BURBON*, well watered by the *Loire* and *Allier*; its chief places are, 1. *Nevers*, of ſome account for its pretty *Glaſs-works*, and is dignified with an ancient Dukedom. 2. *La Charite*, 3. *Clamecy*, and 4. *Donzy*.

Province of *Orleanois*.

ORLEANOIS, whoſe chief City is *Orleans*, from whence the Government or Province took its name; a City, if *Paris* excepted, may contend with any in *France*, having once been the Seat of a King of its own. Its pleaſant ſcituation on the *Loire* makes it extream delightful, and although of no conſiderable Trade, yet is a great Thorough-fair for ſuch Commodities as paſs to *Lions*, and other places in the heart of the Kingdom.

Province of *Blaſois*.

BLASOIS hath for its chief place *Blois*, where, by the command of *Henry* the Third, the Duke of *Guiſe*, the firſt ſtirrer up of the Civil Wars in *France*, as alſo the great contriver and promoter of the grievous Maſſacre at *Paris*, was ſlain in the *Senate-houſe*.

Province of *Touraint*.

TOURAINE hath for its chief places, 1. *Tours*, where the *Proteſtants* firſt began, and from one of whoſe Gates (called *Hugo's-Gate*) they were called *Hugonots*. Nigh to this place it was that *Charles Martel*, Father of King *Pepin*, diſcomfited an Army of about 400000 *Sarcens*, and ſlew of them about 370000. 2. *Amboiſe*, 3. *Loches*, and 4. *Chinon*.

Province of *Anjou*.

ANJOU, adjoyning to *Maine*, a ſmall Province, but exceeding fertil, and affords the beſt *Wines* in *France*. Its chief places are 1. *Angiers*, dignified with an *Univerſity*. 2. *Saumur*, a Town delightfully ſeated on the *Loire*, and dignified with the only *Proteſtant Univerſity* in *France*: and 3. *la Fleche*.

Province of *Poictou*.

POICTOU, a large and populous Province, numbring about 1200 *Pariſhes*, and dignified with three *Biſhopricks*; its principal places are 1. *Poictiers*, ſeated on the River *Clavius*, famous for the ſtudy of the *Civil Laws*, and in greatneſs eſteemed next to *Paris*; but of ſmall account as to matter of Trade. 2. *Mallezais*, 3. *Luſon*, 4. *Chaſſelleraud*, 5. *Niort*, 6. *Luſignan*, and 7. *Touars*. This Country is very fertil, eſpecially in good *Vineyards*; and in theſe Fields were fought that memorable Battle, between *John* of *France* and *Edward* the *Black Prince*, who contrary to all expectation gained the day.

Province of *Aunis*.

AUNIS, South of *Poictou*, hath for its chief City *Rochel*, commodiouſly ſeated on the *Aquitain* Ocean, by reaſon of which it enjoyeth a great Trade; it is a place of great ſtrength, as may appear by the reſiſtance the *Proteſtants* there inhabiting, made againſt the powerful Army of the *French* King.

Province of *Angoumois.* *ANGOUMOIS*, South of *Guienne*, hath for its chief place *Angoulesme*.

Province of *Berry.* *BERRY*, very fertil and hath rich Pastures, on which are fed abundance of *Sheep*, of whose *Wool* the Inhabitants make store of *Cloth*. Its chief places are 1. *Burges*, dignified with a flourishing *University*; 2. *Issoudun*, 3. *Chasteau Roux*, 4. *Argentum*, and 5. *Sancerre*.

Province or Dutchy of *Burgundy.* *BOURGOGNE*, or *BURGUNDY*, which is subdivided into several less parts, hath for its chief places 1. *Dijon*, built by the Emperour *Aurelian*, proud in her *Parliament*, and for giving birth to St. *Bernard*. 2. *Autun*, once the chief City in the Province, and dignified with an *Episcopal See*. 3. *Beaune*, famous for its stately *Hospital*, equalizing many Princes Palaces; and these places are in *Bourgogne*, particularly so called. 4. *Challon*, in *Challonnois*, belonging to the House of *Orange*. 5. *Mascon*, in *Masconnois*, where the *Devil* made his visits and disputes to a *Minister*, which story is sufficiently known, being at large treated of in a Book entituled the *Devil* of *Mascon*. 6. *Semur*, in *Auxois*; and 7. *Chastillon* on the *Seine*, in the Country of *Montagne*.

Several small Countries. Adjacent to this Province of *Burgundy* are the Countries of *Charollois*, *Auxerrois*, *Bresse*, *Balliage*, *Beugey*, and *Veromey*. The chief place of *CHAROLLOIS*, is *Charolles*; of *AUXERROIS*, *Auxerre*; of *BRESSE*, *Bourge*, a Town so well built and so strongly fortified, that it is esteemed impregnable; of *BALLIAGE*, which bordereth upon the *Swisses* and *Savoy*, *Gex*, which is not far distant from *Geneve*; and of *BUGET* and *VEROMAY*, bordering upon *Dolphin* and *Savoy*; *Belly*, which is a place of some account.

Province of *Lionnois.* *LIONNOIS* hath for its chief places, 1. *Lions*, seated upon the conjunction of the *Roane* with the *Soane*, by some esteemed the second City of *France*, a famous ancient Mart Town, and the See of an *Archbishop*, who is Primate of all *France*. 2. *Treveux*, in the Sovereignty of *Dombes*; *Montbrizon*, in the County of *Forez*; and 4. *Ville Franche*, in the Country of *Beaujolois*.

Province of *Auvergne.* *AUVERGNE* hath for its chief places, 1. *Bourbon* the *Archambaul*; 2. *Molins*, seated on the *Elaver*, of note for their neat Cases of *Knives* and *Scissers*, both in the part or Country of *Bourbonnois*. 3. St. *Pierre le Montier*, in *Nivernois*. 4. *Clermont*, the Seat of *Vercingetorix*, who so bravely opposed *Cæsar*; 5. *Riom*, 6. *Monferrand*, 7. *Vic le Comte*, and 8. *St. Flour*, all in *Auvergne*, particularly so called. 9. *Gueret*, and 10. *Dorat*, in the Part of *La Marche*.

Government of *Guienne* and *Gascogne.* In the Government of *Guyenne* and *Gascogne* are several *Provinces* and *Countries*, in which are seated many good *Towns* and *Cities*.

In *GUIENNE* are 1. the Province of *Saintonge*, whose chief place is *Sainctes*. 2. *Guienne*, which hath for its principal City *Bourdeaux*, seated on the Banks of the *Gerende*, famous for being the Birth-place of King *Richard* the Second, at present honoured with an *University* and a *Parliament*. It is a place of a very great Trade, and plentifully furnished with divers good Commodities, especially *Wines* and *Paper*. 3. *Perigort*, hath for its chief place *Perigueux*, seated on the Banks of *Ila*; 4. *Agenois*, whose chief place is *Agen*; 5. *Limosin* hath for its chief places *Limoges* and *Brive*; 6. *Quercy*, in which are seated *Cahors*, a rich and beautiful City, built on the ascent of a Hill; and *Montalbon*, situate on the *Garond*, a place of good strength; and 7. *Rovergue*, whose chief places are *Rodez* and *Vabres*.

Provinces in *Gascogne.* In *GASCOGNE* are also divers Provinces, which with its chief places are taken notice of in the *Geographical Table* of the four Governments beyond the *Loire*, beginning with *Guienne* and *Gascogne*.

Province of *Languedoc.* *LANGUEDOC* may be divided into three quarters, in which are several parts. In the higher *Languedoc* are the Cities of *Toulousa*, in *Toulousan*, a fair large City, though of no continuance, and is a place of a considerable Inland-

Inland-trade. 2. *Alby*, in *Albigeois*; 3. *Castellau darry*, in *Auraguais*; and 4. *Foix*, in *Foix*. In the lower *Languedoc* are 1. *Narbone*, the first Colony planted by the *Romans* next to *Carthage*, out of *Italy*; 2. *Aleth*, 3. *Limouth*, all in *Narbone*; 4. *Beziers*, 5. *Agde*, and 6. *Pemenas*, in the quarter of *Beziers*, 7. *Montpellier*, esteemed the healthfullest place for a pure Air in all *France*; 8. *Nismes*, and 9. *Beaucaire*; all in the quarter of *Nismes*. In the other part called *Sevennes* are, 1. *Mende*; in the quarter of *Gevaudan*; 2. *Le Puy*, in *Velay*; 3. *Viviers*, and 4. *Uzes*, in the part of *Vivarais*.

Province of *Daulphine.* The Province of *DAULPHINE* is watered with the *Roane* and other Rivers, and honoured with the title of the Princes of *France*. It may be divided into three great parts, which are subdivided into others, *viz.* in the part or quarter towards the *Roane* are the Parts and Cities of *Vienne* in *Viennois*, of some esteem for its excellent *Sword-blades* here made; 2. *Valence*, a fine City watered with the *Roane*; 3. *Romans*, 4. *St. Marcellin*, 5. *Crest*, and 6. *Montelimar*; all in the higher and lower *Valentinois*; and *St. Pol Trois Chaux*, in the part of *Tricastin*. In the quarter in the midst of the Province are 1. *Grenoble*, in *Grisivaudan*; 2. *Die*, in *Diois*; and 3. *le Bujiz*, in *Baronies*; And in the quarter towards the *Alpes*, 1. *Embrun*, in *Embrunois*, 2. *Gap*, in *Gapensois*, and 3. *Brianson*, in *Briansonnois*.

Province of *Provence.* *PROVENCE*, washed by the *Mediterranean Sea*, hath for its chief places towards the *Roane*, *Arles*, a Town well fortified by *Henry* the Fourth; and *Tarascon*. Upon the Sea, 1. *Marseille*, once a Colony of the *Phœnicians*, commodiously seated on the *Mediterranean shoar*, enjoying an excellent Haven and Road for Shipping, which renders it a place of a considerable Trade, and is well frequented by Merchants. 2. *Thollon*, the best Sea-port Town on the *Mediterranean* in all *France*, having a capacious and safe Haven, and is well resorted unto by Merchants. 3. *St. Tropes*; 4. *Grace*, and 5. *Vence*. In the midst of the Province are 1. *Aix*, honoured with a *Parliament*; 2. *Salon*, 3. *Apt*, and 4. *Riez*: And towards the *Alpes* are *Sisteron*, *Digne*, *Senez*, *Glandeeve*, &c.

To the Province of *PROVENCE* doth belong the Country of *Avignon*, and the Principality of *Orange*: In *Avignon* are many walled *Towns* and some *Cities*, the chief of which is *Avignon*, a fair City seated on the *Roane*, famous for being the ancient Seat of the *Popes*, till removed to *Rome*. This City is worthy of observation, in that here is said to be 7 *Parish Churches*, 7 *Monasteries*, 7 *Nunneries*, 7 *Inns*, 7 *Palaces*, and 7 *Gates* to its *Walls*; as also for being made a *University*.

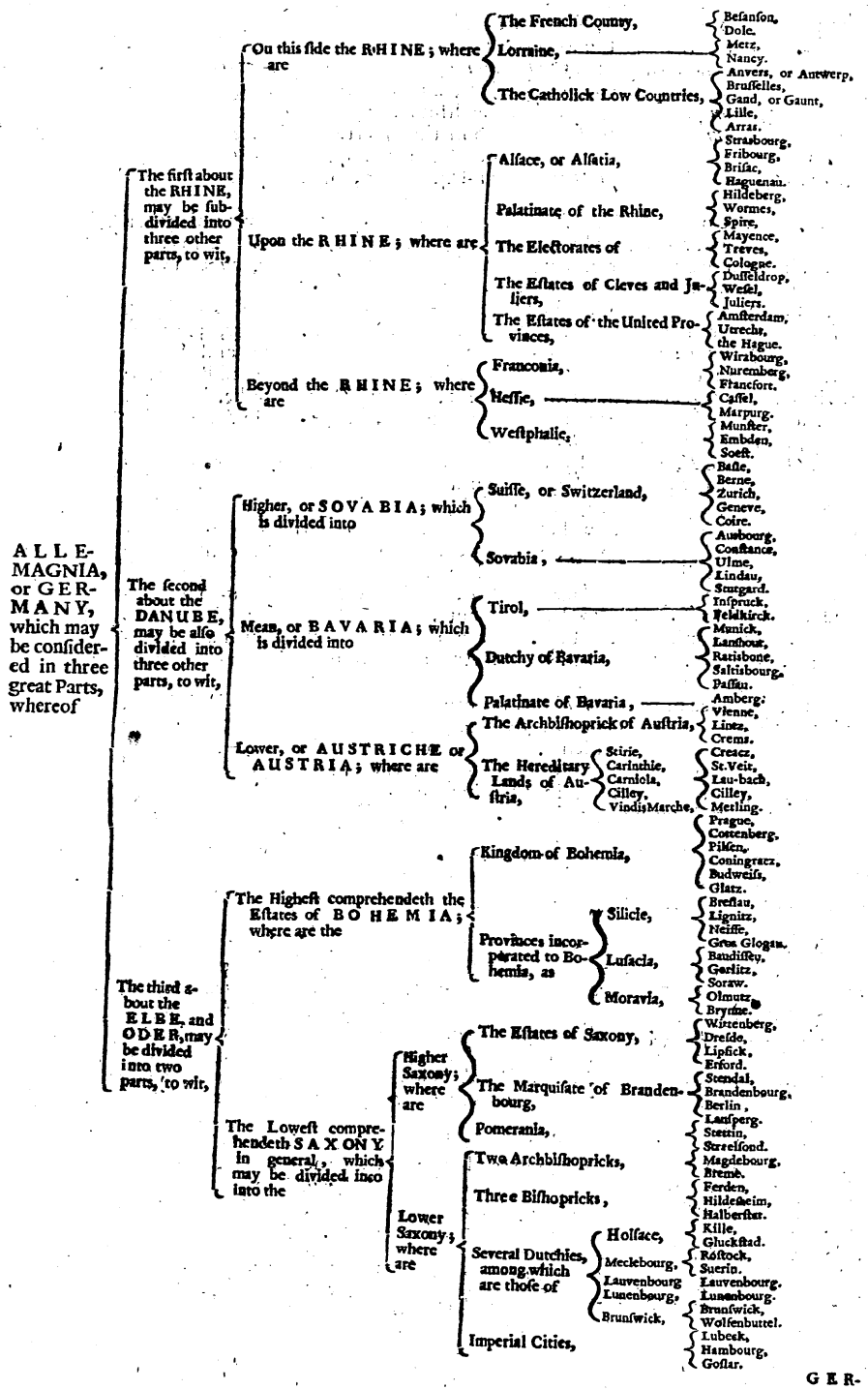
Principality of *Orange.* In *ORANGE* are several good *Towns* and *Cities*, the chief of which is *Orange*, seated on the *Meine*, of note for the wonderful and excellent Antiquities that are here to be seen; and this Country belongs to the Prince of *Orange*.

To the twelve Governments we ought to add *LORRAINE*, where are the Cities of *St. Michael*, *Metz*, *Toul*, *Verdun*, and *Nancy*: also part of *Artois*; of *Haynault* and *Luxembourg*, where are the Cities of *Arras*, *Avesnes*, *Moutmedy*, &c. Likewise the Principalities of *Sedan* and *Arches*, whose chief place is *Charleville*; also *Rousillon*, on the Coast of *Spain*, whose chief places are *Perpignan*, *Elne*, *Collioure*, *Salces*, &c. *Alsatia*, on the side of *Germany*, and the Principality of *Bress*, belonging to *Mademoiselle d'Orleance*; but being to treat of these places in *Germany*, and elsewhere, I shall omit the description of them here.

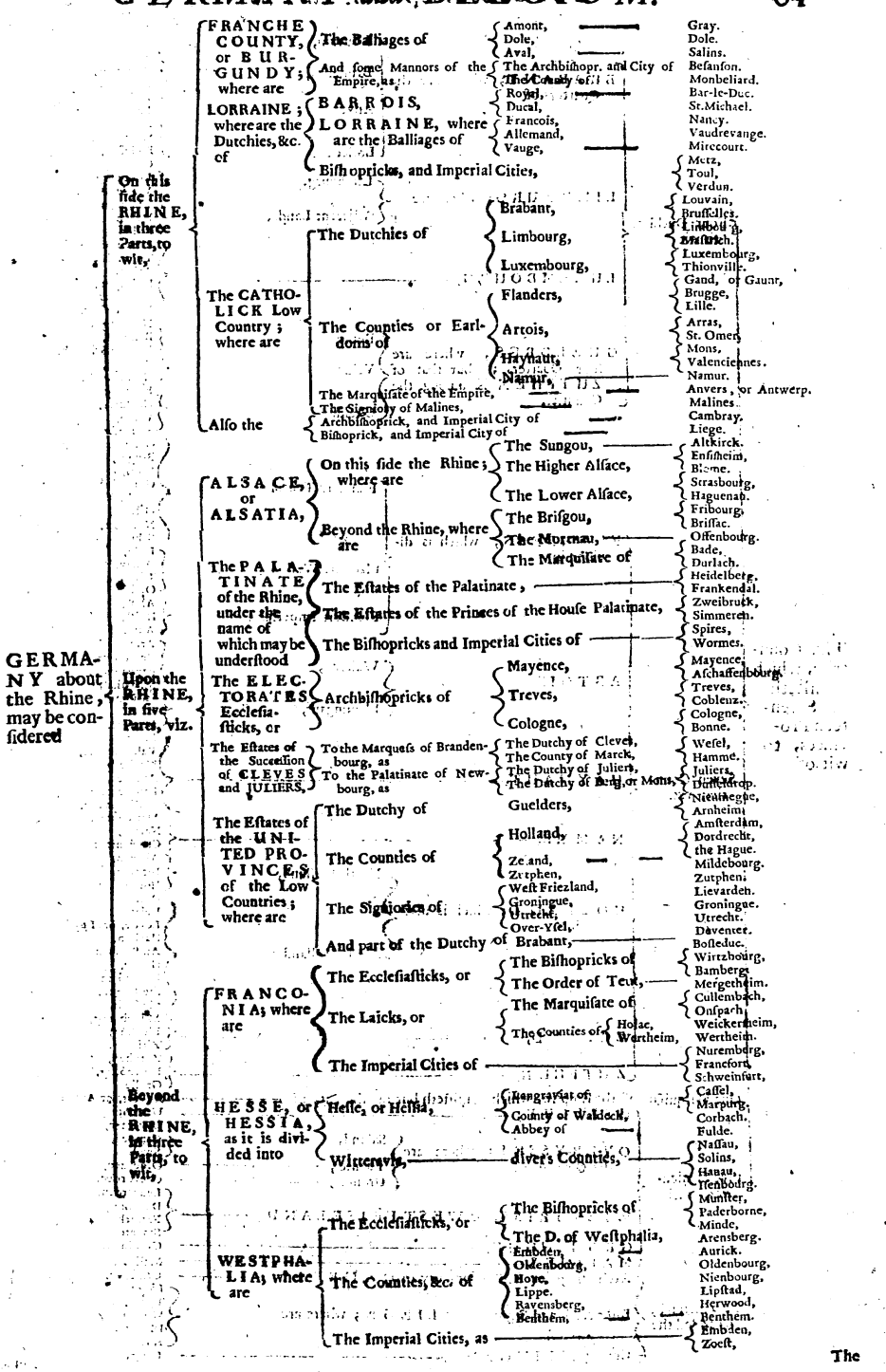
Bishops, Parliaments, &c. in *France.* All *France* hath 15 *Archbishops*, 105 *Bishops*, 10 *Parliaments*; amongst which the power of that of *Paris* extends as far as all the rest. Under these *Parliaments* are 105 and odd *Balliages*, or *Justices-Royal*, immediate dependants on these Parliaments, 24 *Generalities*, and about 250 *Elections* and Receipts of *Royal-Money*: And in the general Governments of the *Militia*, about 2 or 300 *Governments*.

Chief Rivers. This Kingdom is for the generality exceedingly furnished with *Rivers*, the principal amongst which are the *Loire*, *Roane*, *Garonne*, and *Seine*.

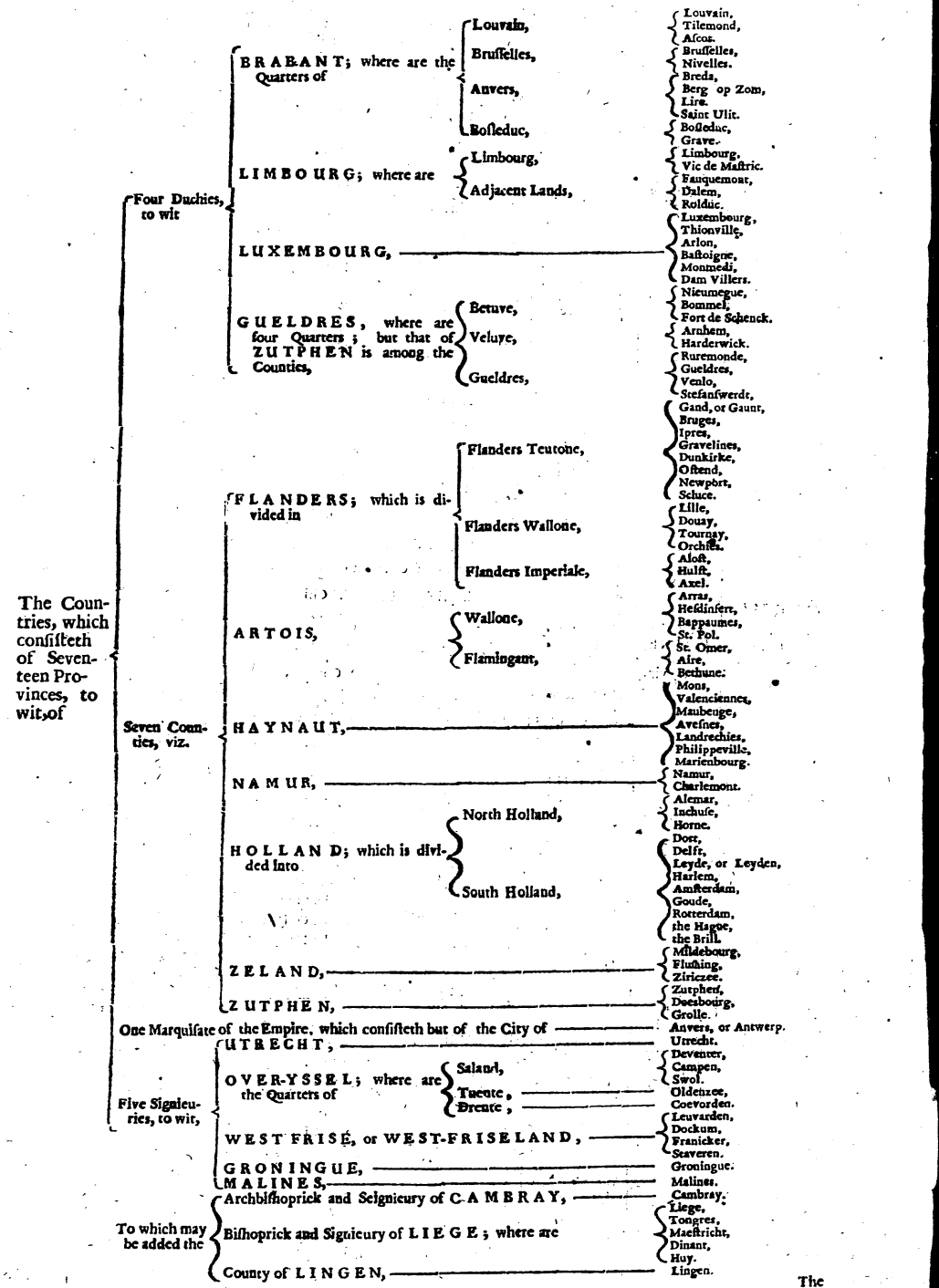
ALLE-


ALLEMAGNIA, or GERMANY, which may be considered in three great Parts, whereof
The first about the RHINE, may be subdivided into three other parts, to wit,
On this side the RHINE; where are
The French County,
Besançon, Dole.
Lorraine,
Metz, Nancy.
The Catholick Low Countries,
Anvers, or Antwerp, Brusselles, Gand, or Gaunt, Lille, Arras.
Upon the RHINE; where are
Alsace, or Alsatia,
Strasbourg, Fribourg, Brisac, Haguenau.
Palatinate of the Rhine,
Hildeberg, Wormes, Spire.
The Electorates of
Mayence, Treves, Cologne.
The Estates of Cleves and Juliers,
Dusseldrop, Wesel, Juliers.
The Estates of the United Provinces,
Amsterdam, Utrecht, the Hague.
Beyond the RHINE; where are
Franconia,
Wirtsbourg, Nuremberg, Francfort.
Hesse,
Cassel, Marpurg.
Westphalia,
Munster, Embden, Soest.
The second about the DANUBE, may be also divided into three other parts, to wit,
Higher, or SOVABIA; which is divided into
Suisse, or Switzerland,
Basle, Berne, Zurich, Geneve, Coire.
Sovabia,
Ausbourg, Constance, Ulme, Lindau, Stutgard.
Mean, or BAVARIA; which is divided into
Tirol,
Inspruck, Feldkirck.
Dutchy of Bavaria,
Munick, Landhout, Ratisbone, Saltisbourg, Passau.
Palatinate of Bavaria,
Amberg.
Lower, or AUSTRICHE or AUSTRIA; where are
The Archbishoprick of Austria,
Vienne, Linze, Crems.
The Hereditary Lands of Austria,
Stirie, Carinthie, Carniola, Cilley, Vindis Marche,
Crezer, St. Veit, Lau-bach, Cilley, Mesling.
The third about the ELBE, and ODER, may be divided into two parts, to wit,
The Highest comprehendeth the Estates of BOHEMIA; where are the
Kingdom of Bohemia,
Prague, Cottenberg, Pilsen, Coningratz, Budweiss, Glatz.
Provinces incorporated to Bohemia, as
Silicie,
Breslau, Lignitz, Neisse, Gros Glogau.
Lusacia,
Baudissey, Gorlitz, Soraw.
Moravia,
Olmutz, Brynne.
The Lowest comprehendeth SAXONY in general, which may be divided into into the
Higher Saxony; where are
The Estates of Saxony,
Wittenberg, Dresde, Lipsick, Erford.
The Marquisate of Brandenbourg,
Stendal, Brandenbourg, Berlin.
Pomerania,
Lansperg, Stettin, Strasselsond.
Lower Saxony; where are
Two Archbishopricks,
Magdebourg, Bremb.
Three Bishopricks,
Verden, Hildesheim, Halberstat.
Several Dutchies, among which are those of
Holsace,
Kille, Gluckstad.
Mecklebourg,
Rostock, Suerin.
Lauvenbourg
Lauvenbourg.
Lunenbourg,
Lunenbourg.
Brunswick,
Brunswick, Wolfenbuttel.
Imperial Cities,
Lubeck, Hambourg, Goslar.

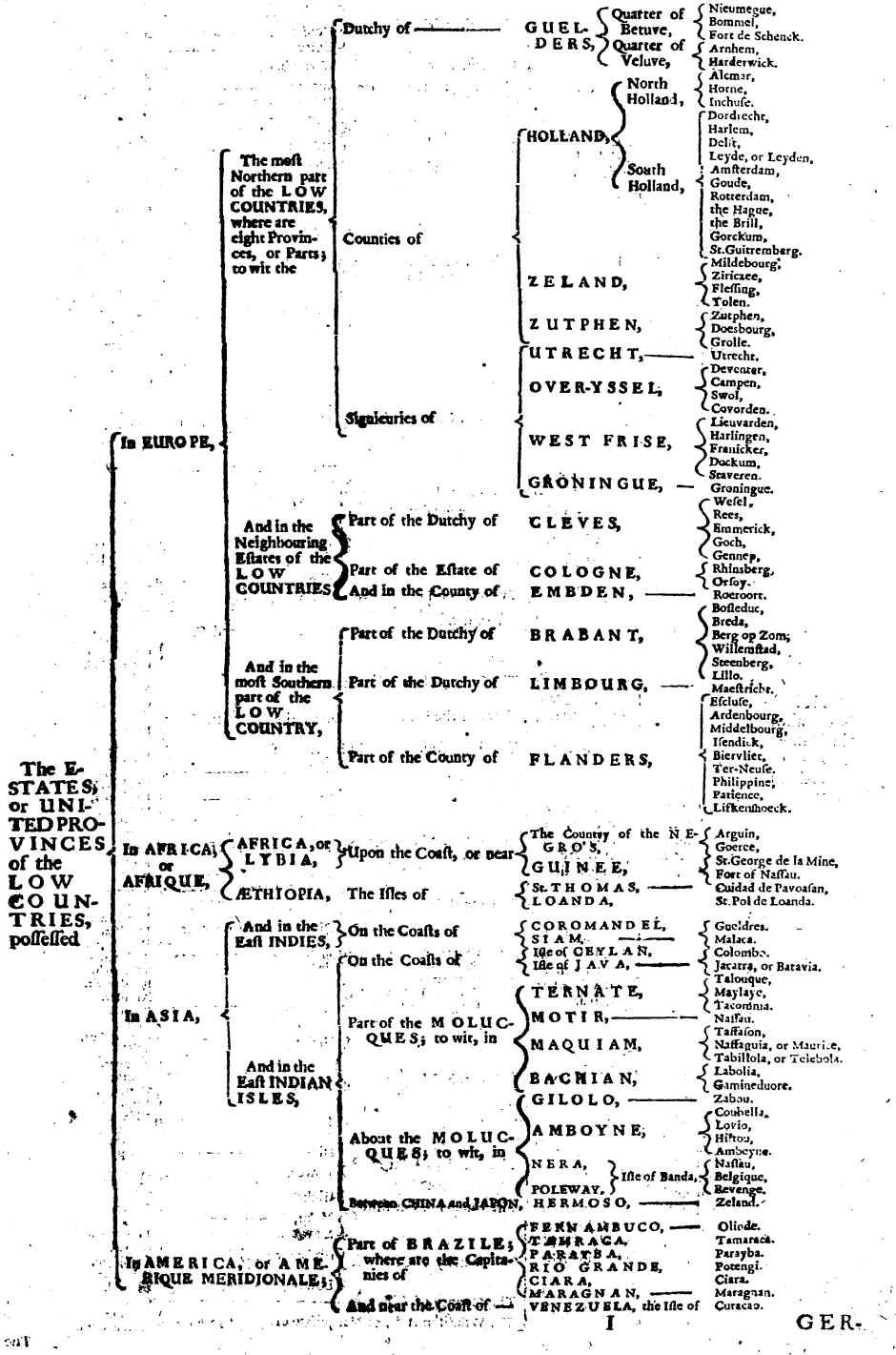
GER-


GERMANY about the Rhine, may be considered
On this side the RHINE, in three Parts, to wit,
FRANCHE COUNTY, or BURGUNDY; where are
The Balliages of
Amont, Dole, Aval.
Gray. Dole. Salins.
And some Mannors of the Empire, as
The Archbishopr. and City of
Besançon.
The County of
Monbeliard.
LORRAINE; where are the Dutchies, &c. of
BARROIS,
Royal,
Bar-le-Duc.
LORRAINE, where are the Balliages of
Ducal, Francois, Allemand, Vaugc,
St. Michael. Nancy. Vaudrevange. Mirecourt.
Bishopricks, and Imperial Cities,
Metz, Toul, Verdun.
The CATHOLICK Low Country; where are
The Dutchies of
Brabant,
Louvain, Brusselles.
Limbourg,
Limbourg.
Luxembourg,
Luxemb. Thionville.
The Counties or Earldoms of
Flanders,
Gand, or Gaunt, Brugge, Lille.
Artois,
Arras, St. Omer.
Heynault,
Mons, Valenciennes.
Namur,
Namur.
The Marquisate of the Empire,
Anvers, or Antwerp.
The Signiory of Malines,
Malines.
Also the
Archbishoprick, and Imperial City of
Cambray.
Bishoprick, and Imperial City of
Liege.
ALSACE, or ALSATIA,
On this side the Rhine; where are
The Sungou,
Altkirck. Enfisheim.
The Higher Alsace,
Blome. Strasbourg.
The Lower Alsace,
Haguenau.
Beyond the Rhine, where are
The Brisgou,
Fribourg, Brisac.
The Mornau,
Offenbourg.
The Marquisate of
Bade, Durlach.
The PALATINATE of the Rhine, under the name of which may be understood
The Estates of the Palatinate,
Heidelberg, Frankendal.
The Estates of the Princes of the House Palatinate,
Zweibruck, Simmeren.
The Bishopricks and Imperial Cities of
Spires, Wormes.
Upon the RHINE, in five Parts, viz.
The ELECTORATES Ecclesiasticks, or
Archbishopricks of
Mayence,
Mayence, Aschaffenbourg.
Treves,
Treves, Coblentz.
Cologne,
Cologne, Bonne.
The Estates of the Succession of CLEVES and JULIERS,
To the Marquess of Brandenbourg, as
The Dutchy of Cleves,
Wesel, Hamme.
The County of Marck,
Hamme.
To the Palatinate of Newbourg, as
The Dutchy of Juliers,
Juliers, Dusseldrop.
The Dutchy of Berg, or Mons,
Nieuheuse.
The Estates of the UNITED PROVINCES of the Low Countries; where are
The Dutchy of
Guelders,
Arnheim, Amsterdam, Dordrecht, the Hague.
The Counties of
Holland,
Mildebourg.
Zeland,
Zutphen.
West Friezland,
Lievarden.
The Signiories of
Groningue,
Groningue.
Utrecht,
Utrecht.
Over-Yssel,
Daventer.
And part of the Dutchy of Brabant,
Bosleduc.
FRANCONIA; where are
The Ecclesiasticks, or
The Bishopricks of
Wirtzbourg, Bamberg.
The Order of Teut.
Mergetheim.
The Laicks, or
The Marquisate of
Cullembach, Onspach, Weickersheim.
The Counties of
Holac, Wertheim,
Wertheim.
The Imperial Cities of
Nuremberg, Francfort, Schweinfurt.
Beyond the RHINE, in three Parts, to wit,
HESSE, or HESSIA, as it is divided into
Hesse, or Hessia,
Hungraviat of
Cassel, Marpurg.
County of Waldeck,
Corbach.
Abbey of
Fulde.
Wittgenstein,
divers Counties,
Nassau, Solms, Hanau, Isenbourg.
WESTPHALIA; where are
The Ecclesiasticks, or
The Bishopricks of
Munster, Paderborne, Minde, Arensberg.
The D. of Westphalia,
Aurick.
Embden,
Oldenbourg.
Oldenbourg,
Nienbourg, Lipstad, Herwood, Benthem.
The Counties, &c. of
Hoye.
Lippe.
Ravensberg,
Benthem.
The Imperial Cities, as
Embden, Zoest,

The


The Countries, which consisteth of Seventeen Provinces, to wit, of
Four Duchies, to wit
BRABANT; where are the Quarters of
Louvain,
Bruſſelles,
Anvers,
Boſleduc,
Louvain, Tilemond, Aſcot.
Bruſſelles, Nivelles.
Breda, Berg op Zom, Lire. Saint Ulit.
Boſleduc, Grave.
LIMBOURG; where are
Limbourg,
Adjacent Lands,
Limbourg, Vic de Maſtric.
Fauquemont, Dalem, Rolduc.
LUXEMBOURG,
Luxembourg, Thionville, Arlon, Baſtoigne, Monmedi, Dam Villers.
GUELDRES, where are four Quarters; but that of ZUTPHEN is among the Counties,
Betuve,
Veluye,
Gueldres,
Nieumegue, Bommel, Fort de Schenck.
Arnhem, Harderwick.
Ruremonde, Gueldres, Venlo, Stefanſwerdt.
Seven Counties, viz.
FLANDERS; which is divided in
Flanders Teutone,
Flanders Wallone,
Flanders Imperiale,
Gand, or Gaunt, Bruges, Ipres, Gravelines, Dunkirke, Oſtend, Newport, Schuce.
Lille, Douay, Tournay, Orchies.
Aloſt, Hulſt, Axel.
ARTOIS,
Wallone,
Flamingant,
Arras, Heſdinfert, Bappaumes, St. Pol.
St. Omer, Aire, Bethune.
HAYNAUT,
Mons, Valenciennes, Maubeuge, Avenes, Landrechies, Philippeville, Marienbourg.
NAMUR,
Namur, Charlemont.
HOLLAND; which is divided into
North Holland,
South Holland,
Alemar, Inchuſe, Horne.
Dort, Delft, Leyde, or Leyden, Harlem, Amſterdam, Goude, Rotterdam, the Hague, the Brill.
ZELAND,
Mildebourg, Flushing, Ziriczee.
ZUTPHEN,
Zutphen, Doesbourg, Grolle.
One Marquiſate of the Empire, which conſisteth but of the City of
Antwerp, or Antwerp.
Five Signieuries, to wit,
UTRECHT,
Utrecht.
OVER-YSSEL; where are the Quarters of
Saland,
Twente,
Drente,
Deventer, Campen, Swol.
Oldenzee, Coevorden.
WEST FRISE, or WEST-FRISELAND,
Leuvarden, Dockum, Franicker, Staveren.
GRONINGUE,
Groningue.
MALINES,
Malines.
To which may be added the
Archbiſhoprick and Seignieury of CAMBRAY,
Cambray.
Biſhoprick and Signieury of LIEGE; where are
Liege, Tongres, Maeſtricht, Dinant, Huy.
County of LINGEN,
Lingen.

The


The ESTATES, or UNITED PROVINCES of the LOW COUNTRIES, poſſeſſed
In EUROPE,
The moſt Northern part of the LOW COUNTRIES, where are eight Provinces, or Parts; to wit the
Dutchy of
GUELDERS,
Quarter of Betuve,
Quarter of Veluve,
Nieumegue, Bommel, Fort de Schenck.
Arnhem, Harderwick.
Counties of
HOLLAND,
North Holland,
South Holland,
Alemar, Horne, Inchuſe.
Dordrecht, Harlem, Delft, Leyde, or Leyden, Amſterdam, Goude, Rotterdam, the Hague, the Brill, Gorckum, St. Guitremberg.
ZELAND,
Mildebourg, Ziricaee, Fleſſing, Tolen.
ZUTPHEN,
Zutphen, Doesbourg, Grolle.
UTRECHT,
Utrecht.
OVER-YSSEL,
Deventer, Campen, Swol, Covorden.
Signieuries of
WEST FRISE,
Lieuvarden, Harlingen, Franicker, Dockum, Staveren.
GRONINGUE,
Groningue.
And in the Neighbouring Eſtates of the LOW COUNTRIES
Part of the Dutchy of
CLEVES,
Weſel, Rees, Emmerick, Goch, Gennep.
Part of the Eſtate of
COLOGNE,
Rhinsberg, Orſoy.
And in the County of
EMBDEN,
Roeroort.
And in the moſt Southern part of the LOW COUNTRY,
Part of the Dutchy of
BRABANT,
Boſleduc, Breda, Berg op Zom, Willemſtad, Steenberg, Lillo.
Part of the Dutchy of
LIMBOURG,
Maeſtricht.
Part of the County of
FLANDERS,
Eſcluſe, Ardenbourg, Middelbourg, Iſendick, Biervliet, Ter-Neuſe, Philippine, Patience, Liſkenſhoeck.
In AFRICA, or AFRIQUE,
AFRICA, or LYBIA,
Upon the Coaſt, or near
The Country of the NEGROS,
GUINEE,
Arguin, Goerce, St. George de la Mine, Fort of Naſſau.
ÆTHIOPIA,
The Iſles of
ST. THOMAS,
LOANDA,
Cuidad de Pavoſan, St. Pol de Loanda.
In ASIA,
And in the East INDIES,
On the Coaſts of
COROMANDEL,
SIAM,
Gueldres.
Malaca.
Iſle of CEYLAN,
Colombo.
On the Coaſts of
Iſle of JAVA,
Jacatra, or Batavia.
And in the East INDIAN ISLES,
Part of the MOLUCQUES; to wit, in
TERNATE,
MOTIR,
MAQUIAM,
BACHIAN,
Talouque, Maylaye, Tacomnia.
Naſſau.
Taffaſon, Naffaquia, or Mauri.e, Tabillola, or Telebola.
Labolia, Gamineduore.
About the MOLUCQUES; to wit, in
GILOLO,
AMBOYNE,
NERA,
POLEWAY.
Iſle of Banda.
Zabou.
Coubella, Lovio, Hiſtou, Amboyne.
Naſſau, Belgique, Revenge.
Between CHINA and JAPON,
HERMOSO,
Zeland.
In AMERICA, or AMERIQUE MERIDIONALE;
Part of BRAZILE; where are the Capitanies of
FERNAMBUCO,
TAMARACA,
PARAYBA,
RIO GRANDE,
CIARA,
MARAGNAN,
Olinde. Tamaraca. Parayba. Potengi. Ciara. Maragnan.
And near the Coaſt of
VENEZUELA, the Iſle of
Curacao.

GERMANY about the Danube, may be considered in three Parts, viz.

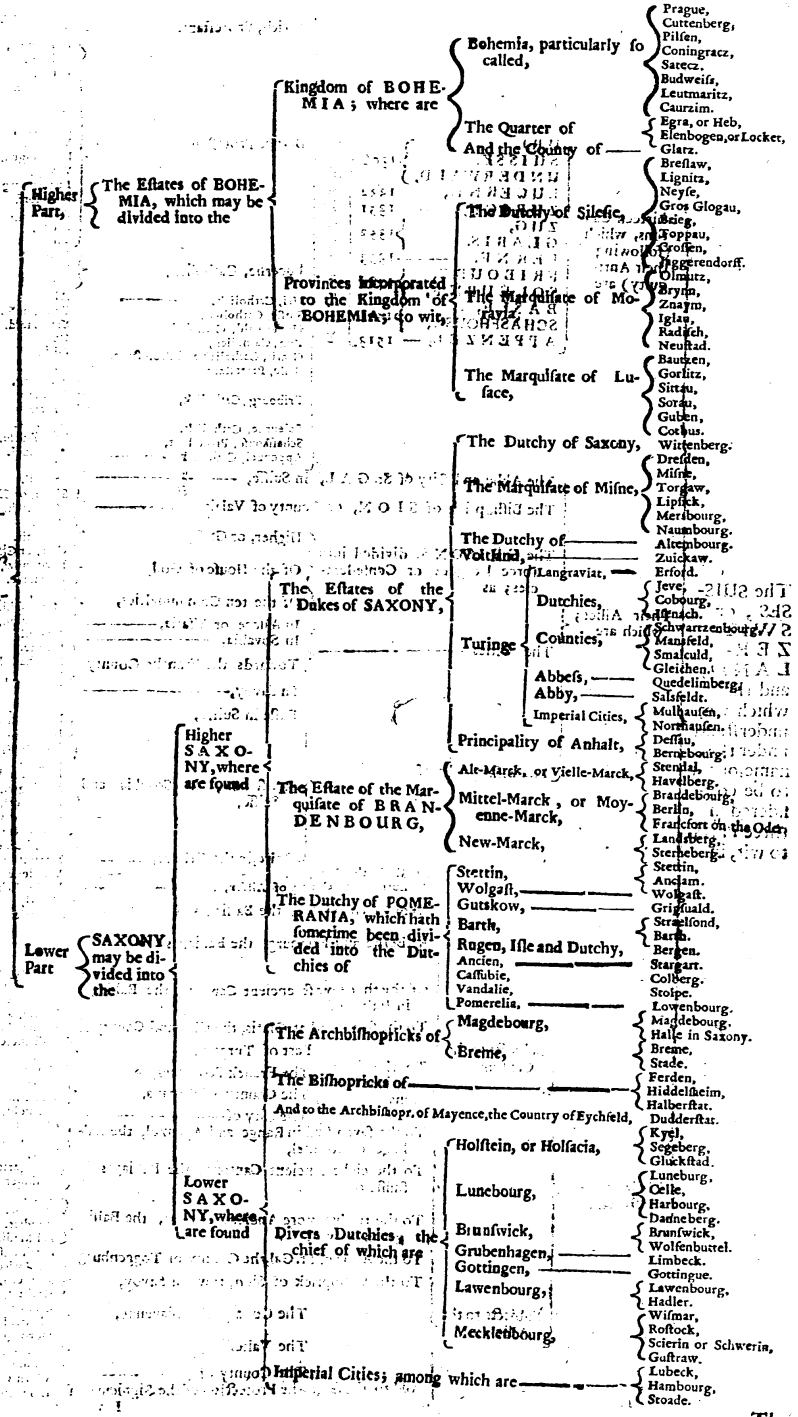
- Higher, or SOVABIA, which is subdivided into two parts, to wit,
  - SOVABE, or SOVABIA; where are
    - The Bishopricks of
      - Ausbourg, — Dillengen, Fuessen.
      - Constance, — Mersbourg.
      - Coire, — Marsoila.
    - The Dutchy of — Wirtenberg, — Sturgard, Tubingue.
    - The Marquisate of — Burgau, — Guntzbourg.
    - Part of the Marquisate of — Baden Durlach, — Baden.
    - Thirteen Counties, among the which are
      - Furstenberg, — Meskirck.
      - Hohenberg, — Ehingen.
      - Rhinfeld, — Rhinfenden, Lauffenbourg.
    - Divers Baronies, &c. — The Barony of, — Waldbourg.
    - Thirty five Cities of the EMPIRE; among the which
      - Beyond the Danube, are — Ausbourg, Constance, Lindau, Uberlingue, Memmingue, Kempten, Ravensbourg.
      - On this side the Danube, are — Ulme, Norlingue, Drinckespuhel, Avien, Hailel, Hailbron, Eslingue, Guemunde.
  - SWISSES, or SWITZERLAND; under the name of which is understood
    - Thirteen Cantons; where of — The principal Cities are — Basle, Berne, Zurich, Lucerne, Soleure, Fribourg, Schasshouse.
    - Twelve or Thirteen Allies; among the which are
      - The Abby and City of — St. Gall.
      - The Bishopric of — Sion.
      - The Grisons, — Coire.
      - The Bishopric of — Porentruy.
    - Twenty, or Twenty five Subjects; among the which are
      - The Cities of — Geneve, Mulhausen, Newchastel, Rotweil.
      - The County of — Chiavenne.
      - The Val Teline, — Sondrio, Worms, or Bormio.
      - The Balliages and Cities of — Lugano, Bellinzone, Bade, Frawenfeld.
- Mean, or BAVARIA; which is divided into three parts, and where are
  - The Estates of the Dukedom of TIROL; which comprehendeth
    - The County of Tirol; where are — Inspruck, Tirol, Custaine.
    - Towards the Lake of Constance, the Countries of — Feldkirch, Bregaz.
    - The Protection of the Bishopricks of — Trente, Brixen.
  - The Estates of the Dutchy of BAVARIA; where are compriled
    - The Dutchy of Bavaria,
      - Higher, — Munich, Landsperg.
      - Lower, — Landshout, Straubing.
    - Between the Ecclesiasticks,
      - The Archbishopric of — Salzbourg.
      - The Bishopricks of — Passau, Ratisbone, Friffingue.
      - The Provost of — Berchtogade.
    - Between the Laicks,
      - The Palatinate of — Newbourg.
      - The County of — Hag.
      - Cities of the Emperour — Ratisbone, Ingolstat, Dona-wert.
  - The Estates of the Palatinate of BAVARIA; which are
    - In the Country of the Palatinate of Bavaria, — Amberg.
    - To the Princes of the House Palatine, — Sultzbach.
    - In the Palatinate of Newbourg, — Burglenfelt.
    - To the Bishoprick of Aichstet, — Aichstet.
    - In the Langrave of Leuchtenberg, — Pfraim.
- Lower, or AUSTRICHE, or AUSTRIA; which is divided into two parts, to wit,
  - Archbishoprick of AUSTRIA,
    - Higher, — Litz, Ens, or Ems.
    - Mean, — Crems, Horne.
    - Lower, — Vienne, Newstat, Bade.
  - And the Hereditary Estates of AUSTRIA; to wit,
    - The Dutchy of Stirie,
      - Higher, — Prucke.
      - Lower, — Gratz, Pettaw.
    - The Dutchy of Carinthie,
      - Higher, — Villach, Gurtz.
      - Mean, — St. Veit.
      - Lower, — Lavemunde.
    - The Dutchy of Carniole,
      - Higher, or Seiche, — Gorice, Gradisque, Cairkpicz.
      - Lower, — Laubach.
    - The County of Cilley, — Cilley.
    - The Windisshmarch, or Marquisate of Vindes, — Metling, Rudolfswerd.

The

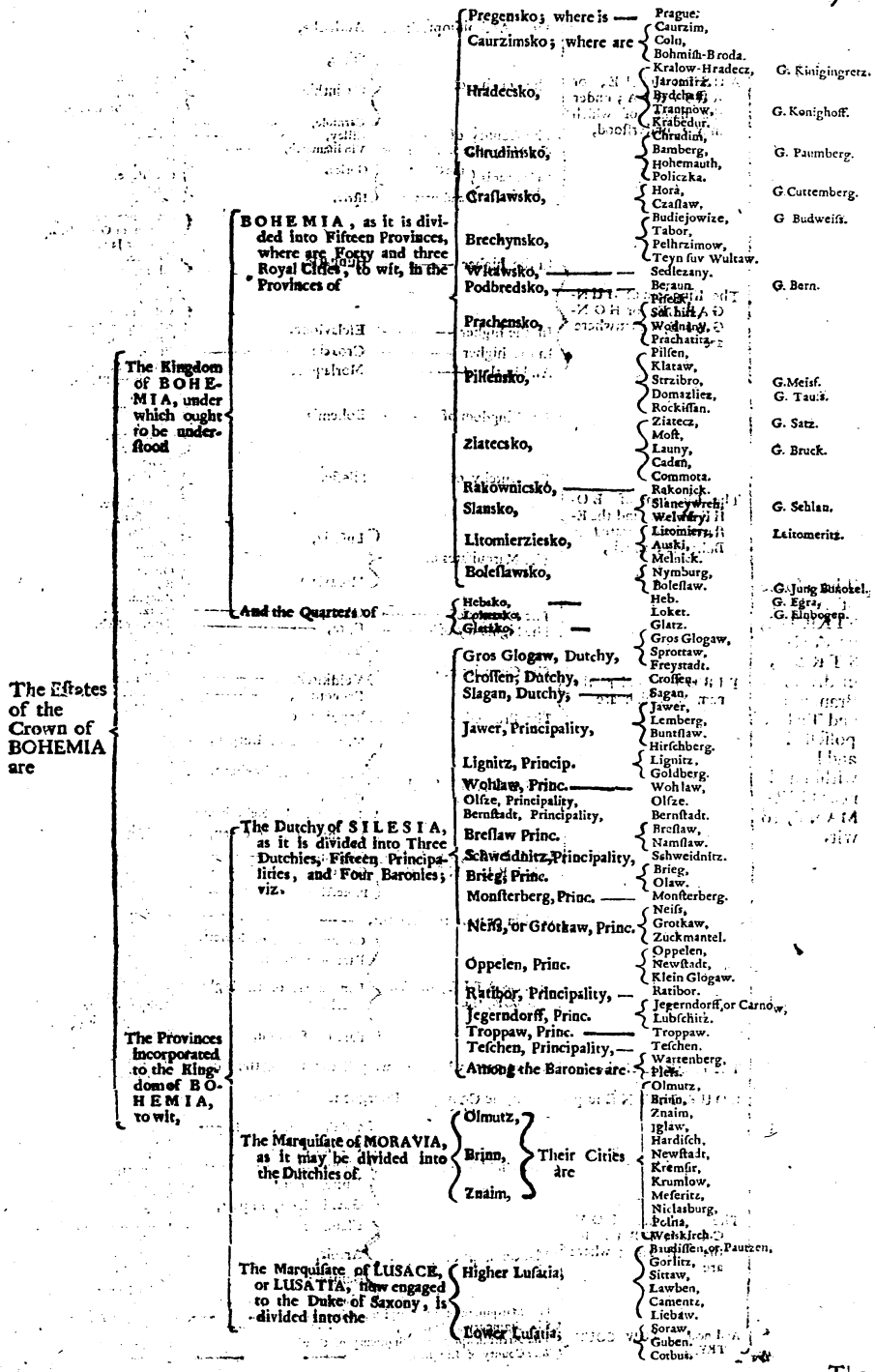
The SUISSES, or SWITZERLAND; and that which we understand under the name, ought to be considered in three Parts, to wit, in

- Thirteen Cantons, which (following their Antiquity) are
  - URI, SUISSE, UNDERWALD, } 1308
  - LUCERNE, — 1332
  - ZURICH, — 1351
  - ZUG, GLARIS, } 1352
  - BERNE, — 1353
  - FRIBOURG, SOLEURNE, } 1481
  - BASLE, SCHASHOUSE, } 1501
  - APPENZELL, — 1513

  or following their Ranges, &c.
  - Zurich, Protestant, — Zurich, Winterthur, Stein, Grisensee, Eglisou.
  - Berne, Protestant, — Berne, Lausanne, Yverdon, Nyon, Mouldon, Morges, Peterlingen, Vevay, Lentzbourg, Bulgdorf, Arbourg, Bruck, Thun.
  - Lucerne, Catholick, — Lucerne, Surfee, Sempach.
  - Uri, Catholick, — Altorf.
  - Suisse, Catholick, — Suitz, or Suisse, Stantzstad.
  - Underwald, Catholick, — Zug.
  - Zug, Catholick, — Glaris.
  - Glaris, Catholick and Protestant, — Basle.
  - Basle, Protestant, — Fribourg.
  - Fribourg, Catholick, — Corbers, Gryers.
  - Soleurne, Catholick, — Soleurne.
  - Schasshouse, Protestant, — Schasshouse.
  - Appenzel, Catholick, — Appenzel.
- Their Allies, which are
  - The Abbe and City of St. GALL, in Suisse, — Wyll, St. Gall.
  - The Bishoprick of SION, or County of Valais, — Sitein, or Sion, Martinach.
  - The GRISONS, divided into three Leagues or Confederacies; as
    - Higher, or Grise, — Hantz, Differtis.
    - Of the House of God, — Coir, or Chur, Furstenow, Puschiave.
    - Of the ten Communalties, — Tafas, Meyenfeld, Mulhausen, Rotweil.
  - The Cities
    - In Alsace, or Alsatia, — Bienne.
    - In Sovabia, — Neuchastel, Vallangin.
    - Towards the Franche Country, — Genevez, Porentruy.
    - In Savoy, — Nuenstat, or Bonneville, Delmont.
  - The Bishopricks of
    - Basle in Suisse, — Mersborg, Arbon, Bischofstel, Bollington, Keiserstul, Clingenow, Reichenau, Steckburne.
    - Constance, in Sovabia and Suisse, — Marsoilachau, Werdenberg, Fortteckchau.
    - Coire, in the Grisons, — Gastal, Uznach.
- Their Subjects, viz.
  - At Glaris, the County of
  - At Zurich, the County of Altax,
  - At Suisse and Glaris, the Balliages of — Murat, Orbe, Granson, Schwartzembourg.
  - At Berne and Fribourg, the Balliages of — Bellinzone, Valbrune, Polese, or Riviere.
  - Of the three most ancient Cantons, the Balliages in Italy, of — Rapperchuil.
  - To the same, and at Glaris, the City and County of — Diffenhofen, Pfin.
  - Subjects to the Cantons, as
    - To the seven Ancients Cantons
      - Part of Turgow, — Meyenberg.
      - The Franck Provinces, — Sargans, Wallenstad, or Riva.
      - The County of Sargans, — Fraenfeld.
      - The City of — Rhineck, Alstetten.
    - To the seven first in Range and Apenzel, the Balliages of Rhintal, — Bade, Bremgarten, Melingen.
    - To the eight Ancient Cantons, the Balliages in Suisse of — Lugan, Lucarne, Mendris, Val Madie.
    - To the twelve more Apelent Cantons, the Balliages in Italy of — Leichtenstag.
  - Subjects to the Allies, as
    - To the Abbe of St. Gal, the County of Toggenburg, — St. Morice.
    - To the Bishoprick of Sion, towards Savoy, — Montech, Hochtal, or Val d'Aux.
    - The County of Chiavenne, — Chiavenne, Pleurs, Ruynee.
    - The Valtelline, — Morbegno, Sondrio, Tirano.
    - The County of — Worms, or Bermio.
    - And to the same the Protection of the Signieury of — Haldenstein.


GERMANY about the ELBE, and the ODER, containeth in its
Higher Part,
The Eſtates of BOHEMIA, which may be divided into the
Kingdom of BOHEMIA; where are
Bohemia, particularly ſo called,
Prague, Cuttenberg, Pilſen, Coningracz, Satecz, Budweiſs, Leutmaritz, Caurzim.
The Quarter of
And the Country of
Egra, or Heb, Elenbogen, or Locket, Glatz.
Provinces incorporated to the Kingdom of BOHEMIA; to wit,
The Dutchy of Silefie,
Breſlaw, Lignitz, Neyſe, Gros Glogau, Sagan, Toppau, Groſſen, Jeggerendorff, Olmutz, Brynn, Znaym, Iglau, Radich, Neuſtad.
The Marquiſate of Moravia,
The Marquiſate of Luſace,
Bautzen, Gorlitz, Sittau, Sorau, Guben, Cotbus.
The Dutchy of Saxony,
Wittenberg.
The Marquiſate of Miſne,
Dreſden, Miſne, Torgaw, Lipſick, Merſbourg, Naumbourg.
The Dutchy of
Voitland, and
Altenbourg. Zuickaw.
Langraviat,
Erford.
The Eſtates of the Dukes of SAXONY,
Dutchies,
Jeve, Cobourg, Eiſenach.
Turinge
Counties,
Schwartzenbourg, Mansfeld, Smalcald, Gleichen.
Abbeſs,
Quedelimberg.
Abby,
Salsfeldt.
Imperial Cities,
Mulhauſen, Normanſen.
Principality of Anhalt,
Deſſau, Bernebourg.
Lower Part
SAXONY may be divided into the
Higher SAXONY, where are found
The Eſtate of the Marquiſate of BRANDENBOURG,
Ale-Marck, or Vielle-Marck,
Stendal, Havelberg, Brandebourg.
Mittel-Marck, or Moyenne-Marck,
Berlin, Francfort on the Oder.
New-Marck,
Landsberg, Sternberg.
The Dutchy of POMERANIA, which hath ſometime been divided into the Dutchies of
Stettin,
Stettin, Anclam.
Wolgaſt,
Wolgaſt.
Gutskow,
Grifſwald.
Barth,
Straelſond, Barth.
Rugen, Iſle and Dutchy,
Bergen.
Ancien,
Stargart.
Caſſubie,
Colberg.
Vandalie,
Stolpe.
Pomerelia,
Lowenbourg.
Lower SAXONY, where are found
The Archbiſhopricks of
Magdebourg,
Magdebourg. Halle in Saxony.
Breme,
Breme, Stade.
The Biſhopricks of
Ferden, Hiddelſheim, Halberſtat.
And to the Archbiſhopr. of Mayence, the Country of Eychfeld,
Dudderſtat.
Holſtein, or Holſacia,
Kyel, Segeberg, Gluckſtad.
Lunebourg,
Luneburg, Celle, Harbourg, Dadneberg.
Brunſwick,
Brunſwick, Wolfenbuttel.
Divers Dutchies, the chief of which are
Grubenhagen,
Limbeck.
Gottingen,
Gottingue.
Lawenbourg,
Lawenbourg, Hadler.
Meckleſbourg,
Wiſmar, Roſtock, Scierin or Schwerin, Guſtraw.
Imperial Cities; among which are
Lubeck, Hambourg, Stoade.

The


The Eſtates of the Crown of BOHEMIA are
The Kingdom of BOHEMIA, under which ought to be underſtood
Pregensko; where is
Prague.
Caurzimsko; where are
Caurzim, Colin, Bohmiſh-Broda.
Hradecsko,
Kralow-Hradecz, Jaromirz, Bydcha, Trantnow, Krabedur.
G. Kinigingretz.
G. Konighoff.
Chrudimsko,
Chrudim, Bamberg, Hohemauth, Policzka.
G. Paumberg.
Craſlawsko,
Hora, Czaſlaw, Budiejowize, Tabor, Pelhrzimow, Teyn ſuv Wultaw.
G Cuttemberg.
G Budweiſs.
Brechynsko,
Sedlezany.
Wſtiwsko,
Beraun.
G. Bern.
Podbredsko,
Prechin, Sakchin, Wodnany, Prachatitz.
Prachensko,
Pilſen, Klataw, Strzibro, Domazliez, Rockiſſan.
G.Meiſs.
G. Taus.
Pilſensko,
Ziatecz, Moſt, Launy, Caden, Commota.
G. Satz.
G. Bruck.
Ziatecsko,
Rakonick.
Rakownicsko,
Slaneywreh, Welwary, Litomiers, Auski, Melnick.
G. Sehlan.
Litomeritz.
Slansko,
Litomierziesko,
Boleſlawsko,
Nymburg, Boleſlaw.
G. Jung Bukotel.
G. Egra,
G. Elnbogen.
And the Quarters of
Hebsko,
Heb.
Lowensko,
Loker.
Glatzko,
Glatz.
The Provinces incorporated to the Kingdoms of BOHEMIA, to wit,
Gros Glogaw, Dutchy,
Gros Glogaw, Sprottaw, Freyſtadt.
Croſſen, Dutchy,
Croſſen.
Slagan, Dutchy,
Sagan.
Jawer, Principality,
Jawer, Lemberg, Bunſlaw, Hirſchberg.
Lignitz, Princip.
Lignitz, Goldberg.
Wohlaw, Princ.
Wohlaw.
Olſze, Principality,
Olſze.
Bernſtadt, Principality,
Bernſtadt.
Breſlaw Princ.
Breſlaw, Namſlaw.
Schweidnitz, Principality,
Schweidnitz.
Brieg, Princ.
Brieg, Olaw.
Monſterberg, Princ.
Monſterberg.
Neiſs, or Grotkaw, Princ.
Neiſs, Grotkaw, Zuckmantel.
Oppelen, Princ.
Oppelen, Newſtadt, Klein Glogaw.
Ratibor, Principality,
Ratibor.
Jegerndorff, Princ.
Jegerndorff, or Carnow, Lubſchitz.
Troppaw, Princ.
Troppaw.
Teſchen, Principality,
Teſchen.
Among the Baronies are
Warrenberg, Plen.
The Marquiſate of MORAVIA, as it may be divided into the Dutchies of
Olmutz,
Brinn,
Znaim,
Their Cities are
Olmurz, Brinn, Znaim, Iglaw, Hardiſch, Newſtadt, Kremſir, Krumlow, Meferitz, Niclasburg, Polna, Weiskirch.
The Marquiſate of LUSACE, or LUSATIA, now engaged to the Duke of Saxony, is divided into the
Higher Luſatia,
Budiſſen, or Pautzen, Gorlitz, Sittaw, Lawben, Camentz, Liebaw.
Lower Luſatia,
Soraw, Guben, Cotbus.

The

The House of AUSTRICHE, or AUSTRIA, in divers Branches and Titles, possessed and lying within and near GERMANY, to wit,

AUSTRICHE, or AUSTRIA; under the name of which may be understood,

- The Archbishoprick of Austriche, — Vienna, Crems, Linrz.
- The Duchy of
  - Stirie, — Grecz, Pruck.
  - Carinthie, — St. Veit, Lavemunde, Grucz, or Straspurg.
  - Carniole, — Laubach.
- The County of Cilley, — Cilley.
- The Marquisate of Vinde, or Vindismarch, — Merlin.
- And towards Italy,
  - the County of Gorice, — Gorice, Gradisque.
  - and part of Istrie, — Trieste, Pedena.

The Kingdom of HUNGARIE, or HONGRIE, in part, where are

- In the higher — Hungarie, — Presbourg, or Poson, Sopron. or Oedenbourg, Raab, or Javarin, Comore, Filek, Cassau, Tokay, Varadin.
- In the higher — Esclavione, — Zagrab, or Agram, Copronitza.
- In the higher — Croacie, — Sisseg.
- And in the — Morlaquie, — Segna, or Senia, Segvek an Flaum.

The Kingdom of BOHEMIA, and the Estates incorporated to Bohemia; to wit,

- The Kingdom of — Bohemia, — Prague, Cuttenberg, Pilsen, Comingratz, Rhodols.
- The Duchy of — Silesie, — Breslau, Lignitz, Neisse, Grou Glogau.
- The Marquisates of
  - Lusacia, — Baudissen, Gorlitz, Sittau, Sorau.
  - Moravia, — Olmutz, Brinne, Znaym.
- The County of — Glatz, — Glatz.
- The Signiory of — Egra, — Egra, or Heb:

TIROL; under the name of which are

- The Counties of
  - Tirol, — Inspruck, Hall, Cufstain.
  - Veldkirck, or Bregentz, — Feldkirck, Bregentz.
- The Protection of the Bishopricks of — Trente, Brixen.

In SOVABIA, the

- Marquisate of Burgau, — Burgau, Guntzbourg.
- County of Hohenberg, — Rotenbourg.
- City of — Ehlingen, Horb.
- Lantgraviat of Nellenbourg, — Villengen, Steckach.

In SUISSE, or SWITZERLAND, the

- County of Rhinfelden, — Rhinfelden, Lauffenbourg.
- City of — Waldshout.
- County of Hapsburg, or — Habsbourg.
- Protection of the Cities of — Constance, Celle, Castelz, Pludentz.

Within or near the Grisons, — Altkirck.

In ALSATIA, or ALSACE, the

- County of Pfirt, or Ferrette, — Tannes, Befort.
- Part of Sungou, — Ensisheim, Keisersperg.
- Langraviat of the higher Alsatia, — Heiligen Creutz, Fribourg, in Brisgou, Brisac, Newenbourg.
- Part of Brisgou, — Oppenheim, Franckendal.

The Palatinate of the RHINE in part, where are many Cities, among the which,

BOURGOGNE in part, to wit, the County of Bourgogne; where are — Dole, Gray, Salins.

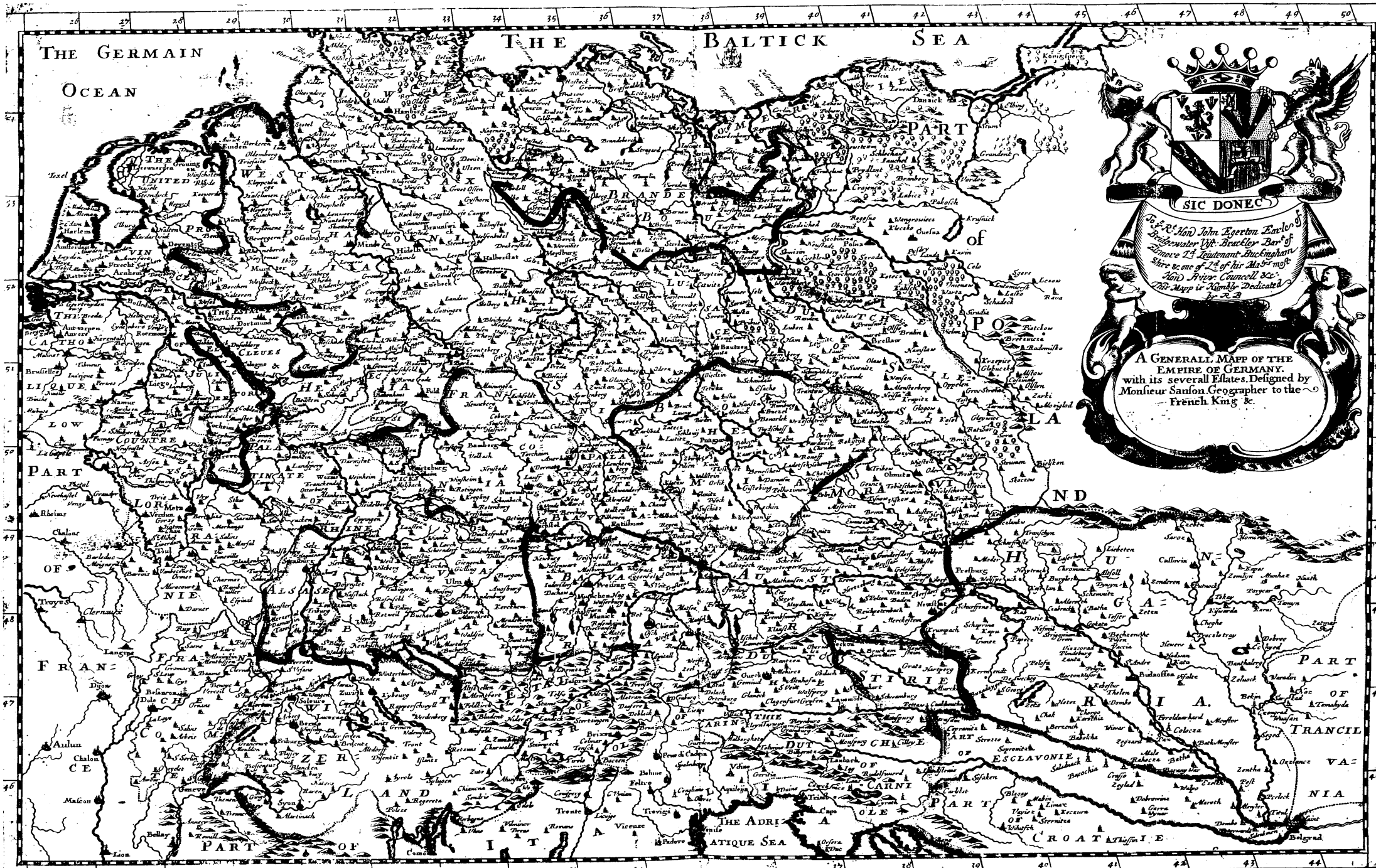
The Catholick LOW COUNTRY, for the most part; where are

- The Dutchies of
  - And the Charollois, in part, — Charolles.
  - Brabant, Limbourg, — Leuvain, Brusselles. Limbourg.
  - Luxembourg, — Luxembourg, Thionville. Ruremonde.
  - Guelderland, in part,
- The Counties of
  - Flanders, — Gand, or Gaunt, Lille,
  - Artois, — Arras, St. Omer.
  - Hainault, — Mons, Valenciennes.
  - Namur, — Namur.
- The Marquisate of the Empire, where is — Anvers, or Antwerp.

And near the LOW COUNTRY,

- The Signiory of Malines, — Malines.
- The Archbishoprick and Signiory of Cambray, — Cambray.
- The County of Linghen, — Linghen.

GER-


THE GERMAIN OCEAN
THE BALTICK SEA
SIC DONEC
To the R.t Hon.ble John Egerton Earle of Bridgewater Visc.t Brackley Bar.t of Dimore L.d Leiutenant Buckingham Shire &c one of the 24 of his Ma.ties most Hon.ble Priv. Councell &c.
This Mapp is Kindly Dedicated by R.B
A GENERALL MAPP OF THE EMPIRE OF GERMANY.
with its severall Estates. Designed by Monsieur Samson Geographer to the French King &c.
THE UNITED PROVINCES
PART OF LOW COUNTRE
PART OF FRANCE
PART OF ITALY
THE ADRIATIQUE SEA
PART OF CROATIE
PART OF ESCLAVONIE
PART OF HUNGARIA
PART OF TRANCILVANIA
PART OF POLAND
PART OF POMERANIA

GERMANY
AND
BELGIUM;
Or, THE
Low Countries.

Its Bounds, Latitude and Longitude.

GERMANY is in the midst of those three parts which we have placed in the middle of *Europe*, and extends it self from 45½ unto 54½ *degrees* of *Latitude*, and from the 28*th* unto the 41 of *Longitude*. This position shews, that it lies in the middle of the *Temperate Zone*.

This *Germany* may be considered in three great parts, of which each may be subdivided into three others. We will call the great parts, *Germany* about the *Rhine*, *Germany* about the *Danube*, and *Germany* about the *Elbe* and the *Oder*; all which, with its lesser parts are taken notice of in the *Geographical Tables* of *Germany*, according to which method we will proceed; and then the first will be the *Franche County*, or *BURGUNDY*, which is bounded with *Bress*, *Switzerland*, *Lorraine*, and *Champaine*. Its ancient Inhabitants were the *Hedui*, who first called *Julius Cæsar* into *France*, and its People are at present esteemed warlike, marching under the Colours of divers Princes, and are known by the name of *Wallons*. It is a Country so fertil, that it hath been called the *Flower* of *France*, within whose bounds some do esteem it. It hath for its chief places 1. *Besanson*, the Metropolis of *Burgundy*, seated on the banks of the *Doux*, a City of good strength and beauty, and made an *University* by the commands of *Charles* the Fifth, and Pope *Julio* the Third. 2. *Dole*, in the Balliage of *Dole*, a Town of great strength, riches and beauty, famous for its Colledge of *Jesuites*; 3. *Gray*, in the Balliage of *Amont*; and 4. *Salius*, in the Balliage of *Aval*, of some account for its rich *Salt Fountain*. Besides these places in *Burgundy* are numbred 20 walled *Towns*, and about 160 *Lordships*.

Province of Lorrain.

LORRAINE, bordering on *Burgundy*, famous for having had for its Duke, *Godfrey*, Sirnamed *Bulloigne*, the Recoverer of the *Holy Land* from the *Turks*; its *Dukes* now enjoy little else save the Title, the Country being seized by the *French*. It is of a fertil Soil, affording plenty of *Corn* and *Wine*, and hath store of *Salt*. Its chief places are 1. *Nancy*, in the Balliage of *Francois*, once dignified with the Seat of the Duke; 2. *Vandrevange*; 3. *Mirecourt*; 4. *Vancoleur*, the Birth-place of *Joan de Pucelle*; 5. *Pont-a-Mason*, so named by reason of its Bridge over the *Mosa*; 6. *Metz*, and 7. *Toul*.

Between

Country of *Barrois.* Between this Province and *Champaine* lieth the Country of *BARROIS*, and belongeth to *Lorrain*, whence the eldeſt Sons of theſe Dukes were ſtyled Princes of *Barri*. Its chief places are *Bar-le-Duc*, and *St. Michiel.*

The ſeveral parts of the *Catholick Low Countries.* The *Catholick LOW COUNTRIES* may be contained under the Dukedoms of *Brabant*, *Limbourg*, and *Luxembourg*; the Earldoms of *Flanders*, *Artois*, *Haynaut*, and *Namur*; the Marquiſate of the *Empire*; the Signiory of *Malines*, &c. The whole Country is exceeding fertil, yet found not very advantagious to the *Spaniards*, who are Maſters of it.

Dukedom of *Brabant.* *BRABANT*, for the moſt part of an ungrateful Soil, yet well inhabited and ſtored with walled *Towns* and *Villages*; the chief amongſt which are 1. *Lovaine*, a fair and large City, being about four miles in circuit within its *Walls*, and ſix without, wherein are many delightful *Gardens* and *Meadows*, and is of note for its *Univerſity*, where there is a Seminary for *English Jeſuits*. 2. *Bruſſels*, a City for its fairneſs and elegancy of its Buildings (its extent being as large as *Lovaine*) giveth place to few in the *Netherlands*. It is at preſent the reſidence of the *Spaniſh* Governour for the *Low Countries*; and 3. *Breda*, once the Seat of the Prince of *Orange*, till taken by the *Spaniards.*

City of *Antwerp.* To the Dukedom of *Brabant* doth belong the *Marquiſate* of the *EMPIRE*, whoſe chief place is *Anvers*, or *Antwerp*, ſeated on the *Schelde*, out of which it hath eight Channels cut, the biggeſt of which are capable to receive about 100 great Ships, which doth much facilitate its Trade; it is a fair and large City, being about ſeven or eight miles in circuit within its *Walls*, which are ſtrong, high, and broad enough for *Coaches* to paſs, on which the *Nobility* and *Gentry* commonly uſe to recreate themſelves. In this City are abundance of *Painters* and *Gravers*, whoſe work is well received abroad. To this Dukedom doth alſo belong the Signiory of *Malines*, whoſe chief place bears the ſame name: likewiſe the Archbiſhoprick and Imperial City of *Cambria*, of good account; and the Biſhoprick and Imperial City of *Liege*, ſeated on the *Meuſe*, a Town of good beauty, being ſo filled with fair *Abbies* and *Monaſteries*, that it is called the *Paradice* of the *Prieſts.*

Dutchy of *Limbourg.* *LIMBOURG*, hath many good Towns, the chief of which are 1. *Limbourg*, ſeated on the Banks of the *Weſer*, and giveth name to the Dutchy. 2. *Maſtrich*, a place of great ſtrength, being held almoſt impregnable, yet was gained lately by the *French*; but through the aſſiſtance of the *Engliſh*, under the command of his Grace, *James* Duke of *Monmouth*. 3. *Dalen*, fortified with a Caſtle, &c.

Dukedom of *Luxembourg.* *LUXEMBOURG*, Northwards of *Lorrain*, ſaid to contain about 1000 *Villages*, and 13 walled *Towns*, the chief of which are 1. *Luxembourg*, ſeated on the *Elze*. 2. *Thionville*, which, with the other places, ſuffered much in the time of the Wars betwixt *France* and *Spain.*

Forreſt of *Ardenna.* In this Province is the famous Forreſt of *Ardenna*, once about 500 miles in compaſs, now ſcarce 90; and in it, or on its edges, is the no leſs famous

The *Spaw.* Waters of the *Spaw*, ſo much frequented by the *Europeans* in and about the Month of *July*, being found exceeding good for ſeveral Diſeaſes in the body Man.

FLAN-

FLANDERS.

Earldom of *Flanders* deſcribed. *FLANDERS* ſhould be the moſt famous of all theſe Countries, ſince it communicates its name to them all; it is divided into *Tutone*, *Wallone*, and *Imperiale*. The chief Cities and places in this Earldom are 1. *Ghent*, whoſe Walls are ſeven miles in compaſs, and was once of great beauty; but now through the Seditiouſneſs of its Inhabitants it is much ruinated, a good part of it being waſt-ground; it is watered by the Rivers *Scheld* and *Ley*, which run through the City and make 26 *Iſlands*, which are conjoyned by 98 *Bridges*. This place is particularly famous for being the Birth-place of *John of Gaunt*, Duke of *Lancaſter*. 2. *Bruges*, ſeated on a large and deep Channel of the Sea, from which it is diſtant about three Leagues; once a famous *Mart Town*, but now of ſmall account as to matters of Traffick. 3. *Ipres*, ſeated on a River ſo called, a Town of great ſtrength. 4. *Graveling*, or *Gravelines*, ſeated on the Sea-ſhoar, a place of good ſtrength; and 5. *Liſle*, of ſome account. The four principal Ports in *Flanders* are, 1. *Dunkirk*, now in the poſſeſſion of the *French*, a place of good ſtrength, eſpecially of late, when the *Engliſh* were Maſters of it; nigh to which is the impregnable Fort of *Mardike*, alſo ſo made by the *Engliſh*. The Inhabitants of this Town are found very troubleſom on the Seas, to thoſe that are their Enemies. 2. *Oſtend*, an exceeding ſtrong place, as is manifeſt by its holding out a Siege of three years, three months, three weeks, and odd days, againſt the Arch-Duke; nigh to which was fought that bloody Battel in 1600, between the Arch-Duke *Albertus*, and the *States*, where (by the valour of the *Engliſh*) the Victory was gained: and 3. *Sluce*, ſeated at the Mouth of the Channel of *Bruges*, where it enjoys a fair and commodious Haven, capable to receive about 500 Sail of good *Ships*; now ſubject to the *States* of *Holland.*

Throughout all *Flanders* are a great many *Religious-houſes*, and *Nunneries*, which are filled with vertuous *Gentlewomen* (for the moſt part, *Maidens*) who live a Religious life, and at ſpare times makes curious Works, which are diſpoſed of by the Lady *Abbeſs.*

Earldom of *Artois.* The Earldom of *ARTOIS*, North of *Flanders*, is divided into *Wallone* and *Flamingat*, and ſaid to contain about 750 *Villages*, and 12 *walled Towns*; the chief among which are 1. *Arras*, where the *Tapeſtry Hangings*, and *Cloths* of *Arras* were firſt invented and made. 2. *Heſdinfert*, a very ſtrong Frontier Town towards *Picardy*; 3. *Bappaumes*, 4. *St. Omer*, and 5. *Aire.*

Earldom of *Haynault.* The Earldom of *HAYNAULT*, Weſt of *Flanders*, is ſaid to number about 900 *Villages*, and 24 *Towns*; the chief amongſt which are 1. *Mons*, an ancient and ſtrong Town; 2. *Valenciennes*, ſo ſeated on the *Scheld* that it cannot be beſieged, except with three Armies at one time. 3. *Mauheuge*; 4. *Aveſnes*, about which are digged excellent white *Stones* for building; 5. *Landrechies*, and 6. *Philippeville.*

Earldom of *Namur.* The Earldom of *NAMUR*, North of *Brabant*, hath about 180 *Villages*, and 4 *walled Towns*, viz. *Namur*, *Charlemont*, *Bovines*, and *Valencourt*. This Country is very fertil in *Grains*, hath ſtore of Mines of *Jaſper*, all ſorts of *Marble*, and abundance of *Iron.*

Under the ſubdiviſion of the Provinces upon the *Rhine*, may be comprehended *Alſatia*, the *Palatinate* of the *Rhine*, the *Archbiſhopricks* and *Electorates* on the *Rhine*, the Eſtates of the Succeſſion of *Cleves* and *Julier*, and the *United Provinces* of the *Low Countries*, &c.

Province of *Alſatia.* *ALSATIA*, Weſtwards of *Lorrain*, hath for its chief places, 1. *Straſbourg*, formerly *Argentina*, becauſe here the *Romans* received the Tribute of the Conquered Nations, ſeated in Lower *Alſatia* near the *Rhine*, from which there is a Channel cut for the conveyance of Commodities. This City is about 7 miles in circuit, is a good place of ſtrength, and famous for its many Rareties; as its admirable *Clock*, a deſcription of which I ſhall here ſet down, which was given me by an Ingenious perſon, who took this particular account thereof.

The Description of the Clock and Clockhouse at Strasburgh, *and of many notable and strange things in and about the same.*

FOR the curiousness of the Work it self I cannot set it forth, neither can any man take pleasure of the Workmanship, but such as see it. In the whole work there are Nine things to be considered, which ascend up one above another, as the description sheweth, whereof eight are in the Wall; the ninth, (and that the most wonderful) standeth on the ground, three foot or such a matter from the Ground and Wall, and that is a great Globe of the *Heavens* perfectly described, in which are three Motions; one of the whole Globe, which betokeneth the whole Heavens, and moveth about from the East to the West in four and twenty hours: the second is of the Sun, which runneth through the *Signs* there described, (by that Artificial motion it hath) once every year: the third is of the *Moon*, which runneth her course in 28 days. So that in this Globe you may view (as if you had the *Heavens* in your hand) the Motions of the whole Heavens, the motion of the *Sun* and *Moon*, every Minute of an hour, the rising and falling of every *Star* (among which *Stars* are the Makers of this work *Dasypodius* and *Wolkinstenius*) described, yea better than in the true *Heavens*, because here the *Sun* darkneth them not by day, nor the *Moon* by night. The Instruments of these Motions are hid in the Body of a *Pelican*, which is portraied under the Globe. The *Pole* lifted up to the Elevation of *Strasburgh*, and noted by a fair Star made in *Brass*: the *Zenith* is declared by an Angel placed in the midst of the *Meridian*. The second thing to be observed (which is the first on the Wall) are two great Circles one within another, the one eight foot, the other nine foot broad, the uttermost moveth from the North to the South once in a year, and hath two *Angels*, the one on the North-side, which pointeth every day in the Week, the other on the South-side, which pointeth what day shall be one half year after. The Inner circle moveth from South to North once in a hundred years, and hath many things described about it; as the Year of the World, the Year of our Lord, the circle of the *Sun*, the processions of the *Æquinoctials*, with the change of the *Solstitial* points, which things fall out by the motion which is called *Trepidationis*: the Leap-year, the Movable Feasts, and the Dominical Letter, or Golden Number, as it turneth every year. There is an immovable *Index*, which incloseth for every year all these things within it; the lower part of which *Index* is joyned to another round Circle, which is immovable, wherein the Province of *Alsatia* is fairly described, and the City of *Strasburgh*. On both sides of these Circles on the Wall, the Eclipses of the *Sun* and *Moon* are, which are to come for many years, even so many years as the Wall might orderly contain. The third thing which is to be seen, a little above this, is a weekly motion of the *Planets* as they name the day, as on Sunday the *Sun* is drawn about in his Charriot; accordingly as the day is spent, and so drawn into another place, so that before he be full in, you shall have Monday, that is, the *Moon* clean forth, and the Horses of *Mars*'s Charriot putting forth their heads; and so it is for every day in the week: On this side there are nothing but dumb Pictures to garnish the Wall. The fourth thing, which is next above this, is a Dial for the Minutes of hours, so that you shall see every Minute pass. Two beautiful Pictures of two Children are joyned to either side of this; he which is on the North-side hath a Scepter in his hands, and when the Clock striketh, he telleth orderly every stroke. He on the South-side hath a fine *Hour-glass* in his hand, which runneth just with the Clock; and when the Clock hath stricken, he turneth his *Hour-glass*, which is run forth, and holdeth it running. The first thing which is next above the Minute-Dial, is the Dial for the hour, containing the half parts also: the uttermost circumference containeth the hours, but within it is made a curious and perfect *Astrolabe*, whereby is shewed the motion of every Planet, his aspect, and in what *Sign*, what *degree*, and what *hour* every one is in every hour

hour of the day; the opposition likewise of the *Sun* and *Moon*, and the Head and Tail of the *Dragon*. And because the Night darkneth not the *Sun*, nor the Day the *Moon*, or other Planets, therefore their Courses are here exactly seen at all times. The sixth thing, which is next unto this, is a Circle wherein the two Signs of the *Moon*, rising and falling, at two several hollow places it is seen at what state she is, and her Age is declared by an *Index*, which is wholly turned about once every Month. The seventh thing, which is about this, are four little Bells, whereon the Quarters of the hour are strucken; at the First quarter cometh forth a little Boy, and striketh the first Bell with an Apple, and so goeth and stayeth at the fourth Bell until the next Quarter; then cometh a lusty Youth, and he with a Dart striketh two Bells, and succeedeth into the place of the Child; at the Third cometh forth a man in Arms, with a War-Mace in his hand, and striking three Bells he succeedeth into the place of the young Man; at the Fourth quarter cometh forth an Old man with a Staff, having a Crook at the end, and he with much ado, because he is Old, striketh the four Bells, and standeth at the Fourth quarter until the next Quarter; forthwith to strike the Clock cometh Death: in the Room above this, for this is the eight thing, (and this understand, that at every Quarter cometh he forth, thinking to catch each of those former Ages away with him;) but at a contrary side, in the same Room where he is, cometh Christ forth, and driveth him in: but when the last Quarter is heard, Christ giveth him leave to go to the Bell which is in the midst, and so striketh he with his Bone according to the number of the hours, and there he standeth at the Bell, as the Old man doth at his quarter Bell, until the next Quarter, and then go they in both together. The ninth and last thing in this right Line, is the Town at the top of the Work, wherein is a noble pleasant Chime, which goeth at three, seven, and eleven of the Clock, every time a diverse Tune to one of the *Psalms*; and at *Christmas*, *Easter*, and *Whitsontide*, a Thanksgiving unto Christ: and when this Chime hath done (the *Cock*, which standeth on the top of the Town, on the North-side of the main Work,) having stretched out his Neck, shaken his Comb, and clapped his Wings twice, Croweth then twice; and this verily he doth so shrill and naturally, as it would make any man to wonder; and if they list, which attend the Clock, they make him to Crow more times. In this Town whereon this Cock standeth, are conveyed all the Instruments of those motions which are in the foresaid described things.

The other places of note in this Lower *Alsatia*, are 2. *Altkirck*, in the part of *Sungou*; 3. *Ensisheim*, in higher *Alsatia*; 4. *Frisbourg*, in *Brisgou*; 6. *Offenbourg*, in *Mortnau*; and 7. *Bade*, in the Marquisate.

The *PALATINATE of the RHINE*, which is divided or severed into the Estates of the *Palatinate*, the Estates of the Princes of the House *Palatinate*, and the Bishopricks and Imperial Cities of *Spires* and *Wormes*. The chief places are *Heidelberg*, seated in a Plain, but environed on three sides with high Mountains, and the other regards the *Rhine*, from which it is distant about a mile; it is dignified with the Seat of the *Palsgraves*, as also with an *University*. 2. *Spires*, seated in a Plain about half a mile from the *Rhine*, a City of more Antiquity than Beauty and Trade, being of note for the *Imperial Chamber* here continually kept. 3. *Wormes*, a City also of good Antiquity for the many *Imperial Parliaments* here formerly held; and 4. *Frankendal*, a new, fair, strong and beautiful City, about which grow great plenty of *Rhenish Wines*. Palatinate of the *Rhine*.

The *Electorates* and *Archbishopricks* on the *Rhine*, are those of *MAYENCE*, whose chief places are *Mayence* and *Aschaffenbourg*; of *TREVES*, whose chief places are *Treves* and *Coblentz*; and of *COLOGNE*, whose principal places are *Cologne* and *Bonne*. Electorates of *Mayence*, *Treves*, and *Cologne*.

The Estates of the Succession of *CLEAVELAND* contain the Dutchies of *Cleves*, of *Julier*, and of *Berge*. The Dutchy of *Cleves* and County of *Marke*, is in the Marquisate of *Brandenburgh*, and hath for its chief places *Wesel* and *Hamme*, in the County of *Marks*. *Cleaveland*. Dutchy of *Cleves*.

Dutchy of *Juliers.* The Dutchy of *JULIERS* hath for its chief places *Aken*, where the *Emperour*, after his Election, is invested with the *Silver Crown* of *Germany*; this place is of great esteem for its *holy Relicks*; and 2. *Juliers*.

The Dutchy of *BERGE*, or *MONTE*, hath for its chief places *Dusseldrop*, *Hattingen*, and *Arusberg*.

The UNITED PROVINCES.

UNder the name of the *United Provinces* of the *LOW COUNTRIES*, or *NETHERLANDS*, are contained the Dutchy of *Guelders*, the Earldoms of *Holland*, *Zeland*, and *Zutphen*, and the Lordships of *Utrecht*, *Overyssel*, *Groningue*, and *Malines*.

Dutchy of *Gulderland.* The Dutchy of *GUELDERS*, or *GUELDERLAND*, Westwards of *Brabant*, is divided into the Quarters of *Betuve*, *Veluve*, and *Guelders*, particularly so called; wherein are the Towns of 1. *Nieumegue*, once a Free City, seated on the branch of the *Rhine* called *Whael*, and made one of the *Imperial Seats* in these parts by *Charles* the Great; the other two being *Thionvil* and *Aken*. 2. *Arnhem*, the usual residence of the Dukes of *Guelders*; 3. *Ruremond*, so called from the River *Ruer* and *Monde*; 4. *Harderwick*, from a Village made a walled Town by *Otho* the third Earl; 5. *Guelders*; 6. *Venlo*; and 7. *Bommel*.

Earldom of *Holland.* The Earldom of *HOLLAND* hath on the West and North the *Seas*, from which no part is above three hours distance; in this Earldom are said to be about 400 *Villages*, and 23 *Towns*; the chief of which are *Amsterdam*, which of late, by the addition of the new to the old, is a fair, strong, and beautiful City, being the most rich and powerful of all the *Netherlands*; famous for its great Trade to the utmost parts of the World, and as infamous for its toleration of all *Religions*: It is seated on the *Tay*, which like a large, but calm Sea, floweth on the North-side; and the River *Amster*, taking its course from the South, through three Lakes entreth the City, passeth through it, and falleth into the *Tay*. This City may be said to be the greatest *Haven Town* in the VVorld, where there are commonly to be seen about a 1000 Sail of *Ships* to ride; and by reason of its vast Trade to Foreign parts, is found to have great plenty of all known Commodities, as being general *Traders* to most places of Traffick. 2. *Rotterdam*, famous for giving Birth to *Erasmus*; 3. *Delft*, inhabited most by *Brewers* and their Relations; 4. *Harlem*, where Printing was first invented, and the first Book that ever was Printed was *Tully's Offices*; 5. *Leyden*, dignified with a famous *University*; the Town consisteth of 41 *Islands*, the passage from one to the other being by *Boats* and *Bridges*, there being about 40 of *Wood* and 110 of *Stone*. 6. *Dort*, where, in *Anno* 1618. was held a National Synod against the *Arminians*; 7. *Brille*; 8. *Alemar*; 9. *Incluse*; and 10 the *Hague*, a Village, but the largest in the VVorld, equalizing many fair Cities, numbring about 2000 Houses, and is very populous; it is adorned with the Palaces of the *States General*, who have here their Assemblies.

It will not be improper to speak of the power of these *States* by Sea, which is so great, that in *Holland*, *Zeland*, and *Friezland*, they are able to put forth to Sea about 2500 Sail of *Ships* for burthen and war. Nor can it be forgot how *Margaret*, Sister to *Floris* the Fourth, Earl of *Holland*, had at one Birth (being 42 years of Age) 365 *Children*, which were all Christned in two Basons in the Church of *Lasdunen*, by *Guido* Bishop of *Utrecht*, who named the Males all *Johns*, and the Females *Elizabeths*; and the *Basons* are yet to be seen in the said Church. *Trew*

A strange Birth of 365 Children.

The

Zeland. The Earldom of *ZELAND*, *quasi*, *Sea* and *Land*, consisting of seven *Islands*, the remainder of fifteen, which the *Seas* are said to have swallowed up, in which were abundance of good *Towns* and *Villages*. The seven *Isles* yet remaing are 1. *Walcheren*, whose principal Towns are *Middlebourg*, once enjoying a good Trade, by the residence of the *English* Merchant-Adventurers; and *Flushing*, the first Town that the *States* took from the *Spaniards*; being now a place of good strength, and held to be the Key of the *Netherlands*. The second Isle is *South-Beverland*, whose chief Town is *Tergowse*: The third *Schoven*, where are *Sirexee* and *Brevers Haven*: The fourth *Tolen*, whose principal place is *Tertolen*: the other three *Islands* are *North-Beverland*, *Duveland*, and *Wolferdike*. This Country is destitute of *Fresh-water* and *Wood*, but in recompence is very fertil in *Grains*.

Earldom of *Zutphen.* The Earldom of *ZUTPHEN*, whose chief places are *Zutphen*, seated on the *Yssel*, a place of great strength.

Barony of *Utrecht.* The Barony of *UTRECHT*, North of *Holland*, hath 70 *Villages*, and 5 walled *Towns*; the chief of which are 1. *Utrecht*, a City commodiously seated for passage by *Boats* to divers other *Towns*, which, with the benefit of the common *Ferries*, one may go in a day from hence to any of the 59 walled *Towns*, equally distant from it; and to Dinner to any of the 26 *Towns*, and return at Night. 2. *Rhenen*, 3. *Amsford*, 4. *Wicket*, and 5. *Montfort*.

Barony of *Overyssel.* The Barony of *OVERYSSEL*, bounded on the East with *Westphalia*; its chief places are *Deventer*, and *Swoll*, in the quarter of *Saland*: *Oldenzee*, in the quarter of *Tuente*; and *Goevorden*, in the quarter of *Drente*.

Westfriezland. The Barony of *WEST-FRIEZLAND* is bounded on the VVest and North with the Sea, is said to number 340 *Villages* and 10 *Towns*, the chief of which are 1. *Louvarden*, where there is held the *Common Council* for the Province; 2. *Harlingen*, a Maritim Town; 3. *Franicker*, of late made a University; and 4. *Dockum*.

Groningue. The Barony of *GRONINGUE* is a Town in *West-Friezland*, having under its Jurisdiction 145 *Villages*, of which the chief are *Groningue*, *Old Haven*, and *Keykerke*.

Under the name of *Germany* beyond the *Rhine*, we comprehend *Francona*, *Hessia*, and *Westphalia*.

Province of *Franconia.* The Province of *FRANCONIA* is divided into three parts, *viz.* into *Ecclesiasticks* or *Bishopricks*, *Laicks* and *Imperial Cities*: the *Bishopricks* are those of *Writzberg*, *Bamberg*, and *Mergetheim*, Cites of good account; the *Laicks* are the Marquisates of *Cullembach* and *Onspach*, and the Counties of *Holac*, whose chief place is *Weickersheim*; and *Wertheim*, whose chief place bears the same name: and the *Imperial Cities* are 1. *Nuremberg*, seated in a barren Soil; yet by reason of the Industry of its *Inhabitants* is a place of good Riches, and well frequented by *Merchants* for their *Wares*, known by the name of *Nuremberg-Wares*. 2. *Francfort*, seated on the *Mœne*, which severeth it into two parts, but joyned together by a fair Bridge. It is encompassed with a strong double *Wall*; it is a Free City of the *Empire*, and famous for the two *Fairs* or *Marts* for *Books* here annually held; the one in *Lent*, and the other in *September*: and 3. *Schweinfurt*.

Lantgravedom of *Hassia.* The *Lantgravedom* of *HASSIA*, Eastwards of *Saxony*; its chief places are 1. *Gassel*, a City seated in a fertil Soil, yet of no great beauty; 2. *Marpurg*, an *University*, and the Seat of the Second House of the *Lantgraves*; and 3. *Dormestat*, the Seat and Inheritance of the youngest House of the *Lantgraves*.

To this Province doth belong the Country of *WALDECK*, whose Earls are subject to the *Lantgraves*; its chief place is *Corbach*. Likewise to this Province belongeth *WETTERAVIA*, whose chief places are *Nassau*, *Solms*, *Hanau*, and *Isenbourg*.

The

Province of *Westphalia*.

The Province of *WESTPHALIA* is divided into three parts, to wit, *Eccleſiaſticks*, *Counties*, and *Imperial Cities*. This Province was the ancient habitation of the *Saxons*; the Soil is very fertil, wonderfully ſtored with *Acorns*, which makes their *Swines-fleſh* excellent, and ſo much eſteemed. The chief places in the *Eccleſiaſticks* are thoſe of *Paderborne*, *Minde*, and *Arenſberg*; alſo the Biſhopricks of *Collen*, *Munſter*, and *Triers*. The Biſhoprick of *COLLEN* taketh up a great part of *Weſtphalia*, and hath for its chief place *Collen*, a City well ſtored with *Schools* for the education of Youth; and here (according to Report) were interr'd the Bodies of the three *Wiſe-men* which came from the East to worſhip our *Saviour*, vulgarly called the three Kings of *Collen*. The Biſhoprick of *MUNSTER* hath its chief place ſo called, ſeated on the River *Ems*, where there is a Monaſtery ſo called, built by *Charles* the Great; 2. *Warendrop*, and 3. *Herwerden*. The Biſhoprick of *TRIERS* hath for its chief places 1. *Triers*, an ancient City, ſeated on the *Moſelle*; 2. *Bopport*, ſeated on the ſaid River, and 3. *Engers*.

Biſhoprick of *Collen*, &c.

The Counties belonging to *Weſtphalia*.

The Counties belonging to the Province of *Weſtphalia*, are 1. *EMBDEN*, whoſe chief place is *Aurick*; 2. *OLDENBOURG*, whoſe chief place is ſo called; 3. *HOYE*, which hath for its chief place *Nienbourg*; 4. *LIPPE*, whoſe chief place is *Lipſtad*; 5. *RAVENSBERG*, whoſe chief place is *Herword*; and 6. *BENTHEM*, whoſe chief place bears the ſame name.

Imperial Cities.

And laſtly, the *Imperial Cities* are thoſe of *Embden*, ſeated low, and therefore no good VVinter City; but in the Summer is very pleaſant: and *Zoeſt*, of ſome account.

We have already ſubdivided *Germany* about the *Danube*; it parts, as they are ſet down in the *Geographical Table* of *Germany* about the *Danube*, are as followeth.

Province of *Savabia*, with its Parts.

The Province of *SOVABIA* is divided into ſeveral parts and Biſhopricks, *viz.* the Biſhoprick of *AUSBOURG*, whoſe chief places are *Dillengen* and *Fueſſen*. The Biſhoprick of *CONSTANCE*, whoſe chief place is *Mersbourg*. The Biſhoprick of *COIRE*, whoſe chief place is *Marſoila*. The Dutchy of *WIRTENBERG*, whoſe chief places are *Stutgard*, dignified with the Seat and reſidence of the *Duke*; and *Tubingue*, of note for being a Univerſity, both *Imperial Cities*. The Marquiſate of *BURGAU*, which hath for its chief place *Guntzbourg*. Part of the Marquiſate of *BADENDURLACK* hath for its principal place *Baden*, ſeated on the *Rhine*, and honoured with the reſidence of the Marqueſs for the Winter Seaſon, as *Milberg* is for the Summer. The County of *FURSTENBERG* hath for its chief place *Meskirch*. The County of *HOHENBERG*, whoſe chief place is *Ehingen*. The County of *RHINFELD*, hath for its chief places *Rhinfelden* and *Lauffenbourg*. The Barony of *WALDBOURG*, whoſe chief place bears the ſame name. The Marquiſate of *ANSPACH*, whoſe chief place bears the ſame name. The Biſhoprick of *WEIRTSBERG*, whoſe chief place bears the ſame name. The Biſhopriek of *MENTZ*, whoſe chief place is ſo called, ſeated on the *Mœne*; this Biſhop is the chief *Elector* of *Germany*. The Biſhoprick of *BAMBERG* hath for its chief places *Bamberg*, ſeated on the *Mœne*; and *Fochiam*, where (as 'tis ſaid) *Pontius Pilate* was born.

...perial Ci...

Beſides theſe Parts or Countries there are ſeveral *IMPERIAL CITIES*, as they lye on this ſide, and beyond the *Rhine*; as 1. *Ausbourg*, ſeated on the *Leith*, in a fruitful Plain for *Corn* and *Paſtures*, Northwards of the *Alpes*, from which it is not far diſtant; it is a Free City of the *Empire*, governed by a Senate of *Citizens*, and is a place of beauty and good ſtrength. 2. *Conſtance*, ...*Uberlingue*, with twelve others, as are mentioned in the *Geographical* ...*ble* of *Germany*, about the *Danube*.

Switzerland, and its parts.

The Province of *SWITZERLAND*, the *SWISSES*, or *HELVETIA*, South of *Italy* and *Savoy*, is divided into 13 *Cantons*; and Confederates with them are 12 or 13 *Allies*, and 10 or 15 *Subjects*; all which, with the names of the ſeveral *Cantons*, &c. are ſet down in the *Geographical Table* of *Switzerland*. The whole Country is in length 240 miles, and about 180 in breadth; it is exceeding populous, and the Men being good Souldiers and addicting themſelves to the Wars, ſerve under the Colours of any Prince that hireth them. This Country is ſaid to lie the higheſt of any in *Europe*, as ſending forth four *Rivers*, which run through its quarters, *viz.* the *Rhine*, *Danube*, the *Po*, and the *Roanus*. But to proceed to its chief places in the *Cantons*, and then with thoſe Confederate with them; and 1. *Baſle*, ſeated on the *Rhine*, which ſeparates it into the greater and leſſer *Baſle*, once an *Imperial City*, but now joyned to the *Cantons*; it is of note for its Univerſity, for the notable Council here held, and for the Sepulchers of *Eraſmus*, *Hottoman*, *Clareanus*, and *Pontanus*. 2. *Zurich*, ſeated on the Lake *Zuriſca*, which ſeparates it into two parts, but joyned together with three fair Bridges, that in the midſt ſerving for a Meeting-place for Merchants. 3. *Lucerne*, ſeated on the banks of a great Lake ſo called; 4. *Steine*; 5. *Berne*, 6. *Soleurne*, 7. *Fribourg*, and 8. *Schafſhouſe*.

Commonwealth of *Geneva*.

Amongſt the Confederates with the *Switzers*, the chief are the *Commonwealth* of *GENEVA*, whoſe Territories (though not above eight miles in circuit, and and the City not above two miles in circuit) is ſaid to contain about 16 or 17000 Souls; it is ſeated on the Lake *Lemanus*, through which the River *Rhoſne* takes its courſe, which divides the City in two parts; it is a fair City, well fortified, and wholly in the poſſeſſion of the *Proteſtants*, and ſince the Reformation is become a flouriſhing Univerſity. The Government of this *Eſtate* is by a *Common-Council*, conſiſting of 200, the four chief amongſt them are called *Syndiques*. The Magiſtrates of this City allow of all Civil Recreations on *Sundays*; to their Miniſters they allow no *Tithes*, but give them yearly Stipends.

The *Griſſons*, *Sangal*, *Vallais*.

The *GRISSONS* hath for its chief place *Coire*: alſo *SANGAL*; and the Territory of *VALLAIS*, or *Valeſia*, ſeated wholly amongſt the *Alpes*; a Country of no great bigneſs, conſiſting in craggy Rocks and impaſſible Hills, yet intermixed with delightful and rich Vallies. Its chief places are *Sittin*, or *Sion*, the only walled Town in the Country, and is a place of great ſtrength, as well by Nature as Art, being ſeated on a high and ſteep Hill: 2. *Martinach*, of note for its Antiquity; and 3. *Augaunum*, or *St. Maurice*, eſteemed the Key of the Country, eſpecially in the Winter, the *Ice* ſtopping all other entrances; here being a Bridge over the *Rhine* for that purpoſe, which is ſtrongly built, and as well fortified and guarded for fear of a Surprizal. Beſides theſe ſeveral other Places, Biſhopricks and Cities, which are their *Allies* and *Subjects*, which I have obſerved in the *Geographical Table* of *Switzerland*.

Province of *Bavaria*, with its parts.

The Province of *BAVARIA* is divided into the Dukedom of *Tirol*, the Dutchy of *Bavaria*, and the Palatinate of *Bavaria*.

Dukedom of *Tirol*.

The Eſtates of the Dukedom of *TIROL* is about 70 miles in length, and as much in breadth; it hath for its chief places 1. *Inſpruck*, ſeated on the *Oenus*. 2. *Trent*, a Biſhoprick, ſeated on the River *Adeſis*, famous for the *General Council* there held by Pope *Paul* the Third, againſt the Doctrines of *Luther* and *Calvin*, which continued off and on for the ſpace of 18 years. 3. *Tirol*, and 4. *Feldkirch*. The Soil of this Country is very fertil, and in many places hath ſtore of *Silver-Mines*, which are found profitable to the *Arch-Dukes*.

Dutchy of *Bavaria*.

The Dutchy of *BAVARIA* hath for its chief places, 1. *Munick*, ſeated on the *Aſer*, dignified with the reſidence of the Duke. 2. *Saltzbourg*, ſeated on the River *Saltzech*, a City honoured with a Biſhoprick; and here lieth interr'd the Body of *Paracelſus*. 3. *Paſſau*, famous for the often meeting here of the *German* Princes. 4. *Ratisbone*, ſeated on the *Danow*, of note for the interview

interview here made between the Emperour *Charles* the Fifth, and *Maurice* Duke of *Saxony*. 5. *Frisingue*, seated on the ascent of a Hill, and not far from the River *Mosacus*; and 6. *Ingulstad*, seated on the *Danube*, and dignified with an University.

Palatinate of *Bavaria*.

The Palatinate of *BAVARIA* hath for its chief places 1. *Amberg*, seated amongst *Silver-Mines*. 2. *Newbourg*, usually the portion of some of the younger *Palatines*. 3. *Castel*, where the *Palatinates* of the *Rhine*, when they sojourn in this Country, use to keep their Court. 4. *Sultzbach*, 5. *Burglenfelt*, 6. *Aichstet*, and 7. *Pfreimt*.

Dukedom of *Austria*, with its parts.

The Arch-Dukedom of *AUSTRIA* is seated on both sides of the *Danube*, and hath united to it, as Hereditary possessions of that House, the Provinces or Dukedoms of *Stirie*, *Carinthie*, *Carniole*; the County of *Cilley*, and the Marquisate of *Windischmarch*.

Austria.

The particular Dukedom or Province of *AUSTRIA* is separate from *Hungaria* on the East by the *Leite*; its chief places are 1. *Vienna*, seated on the *Danube*, at present the Seat of the *German* Emperours, as being the Metropolitan, fairest, and most beautiful City in all *Germany*, being adorned with many magnificent *Temples* and stately *Monasteries*; but above all, with a most sumptuous and Princely *Palace*, where the Emperour keeps his Court. It is esteemed the Bulwark of the Country against the *Turks*, being of note for the repulse they gave the *Turks* in *Anno* 1526, when besieged by about 200000, under the conduct of *Solyman* the Magnificent, and were thence repulsed with the loss of about 80000 Men. 2. *Ems*, so called from the River on which it is seated; 3. *Wells*; 4. *Crems*, seated on the *Danube*; 5. *Home*, 6. *Newstat*, and 7. *Bade*.

Dukedom of *Stirie*.

The Dukedom of *STIRIE* is contiguous to *Austria* on the South; hath for its chief places *Grecz*, *Pruck*, and *Pettau*.

Dukedom of *Carinthie*, &c.

The Dukedom of *CARINTHIE* is South of the *Alpes*, and hath for its chief places 1. *St. Veit*, the Metropolitan City of this Country; 2. *Lavemunde*, and 3. *Grucz*.

The Dukedom of *CARNIOLE*, adjoyning on *Italy* Westwards, hath for its chief places *Laubach*, *Gonice*, *Gradisque*, and *Czirknitz*.

The County of *CILLET*, whose chief place bears the same name.

The Marquisate of *WINDISCHMARCH*, which hath for its chief places *Metling*, and *Radolfswred*.

Germany about the *Elbe* and *Oder*, contains *Bohemia*, and the Higher and Lower *Saxony*: To *Bohemia* are incorporated the Dukedom of *Silesia*, and the Marquisates of *Moravia* and *Lusatia*.

BOHEMIA.

Kingdom of *Bohemia*.

THe Kingdom of *BOHEMIA* is encompassed with the *Hercynian Forests*, which for a long time was a fence against the *Romans*; it hath on the East, *Moravia* and *Silesia*; on the South, *Austria*; on the West, *Bavaria*; and on the North, *Lusatia*. The whole Kingdom contains 550 miles in circuit; in which are said to be 780 *Cities*, *walled Towns*, and *Castles*, and about 32000 *Villages*. Its Inhabitants are much addicted to *Drunkenness* and *Gluttony*; but the *Nobility* and *Gentry* (for the most part) are of another temper. The Soil of the Kingdom is extreamly fertil, and enriched with Mines of all sorts of Metal, except *Gold*. It is severed into 15 *Provinces*, and hath for its chief places, 1. *Prague*, the Metropolis of the whole Kingdom, and seated in the midst, and on the River *Mulda*. This City consisteth of four several Towns, and every one of them have their peculiar *Magistrates*, *Laws*, and *Customs*; to wit, the Old *Prague*, beautified with a famous *Senate-house*, a large *Market-house*, and several fair Structures: then the New *Prague*, separate

separate from the Old by a deep and broad Ditch; also the little Town, so called, which is divided from the Old *Prague* by the *Mulda*, to which it is joyned by a fair Bridge. In this City is the Hill *Rachine*, on the sides of which are many beautiful Houses inhabited by the *Nobility*; and on the summit thereof is a magnificent *Palace*, and is the residence of the *Bohemian* Kings, and later Emperours: the fourth and last part is the Town of the *Jews*, as by them inhabited, where they have five *Synagogues*, and live according to their own Laws. 2. *Coln*, 3. *Jaromirz*, 4. *Churdin*, 5. *Hora*, 6. *Tabor*, 7. *Pisen*, 8. *Ziatecz*, 9. *Rakonick*, 10. *Melnisk*, and 11. *Nimburg*; all places of good account.

The Provinces Incorporate to *Bohemia*, are the Dutchy of *Silesia*, the Marquisates of *Moravia* and *Lusatia*.

Dutchy of *Silesia*.

SILESIA is Eastwards of *Bohemia*, and is severed into two equal parts by the River *Oder*, which hath here its beginning; it is divided into three *Dutchies*, fifteen *Principalities*, and four *Baronies*, whose names (with their chief places) I have taken notice of in the *Geographical Table* of *Bohemia*. Its chief places are 1. *Breslaw*, so called from a Duke of this Province, who built it: In the year 1341 it was totally burnt, but since the rebuilding is become one of the neatest Towns in this part. 2. *Gros-glogaw*, 3. *Jawer*, 4. *Lignitz*, 5. *Breslaw*, 6. *Breig*, 7. *Monsterberg*, 8. *Neuss*, 9. *Oppeln*, 10. *Ratibor*, 11. *Troppaw*, and 12. *Wartenberg*.

Marquisate of *Moravia*.

The Marquisate of *MORAVIA*, West of *Bohemia*, is esteemed the most fertil Country for Corn in *Germany*, abounding also in *Myrrhe* and *Frankinsence*, not growing on Trees, but out of the ground: It is severed into three parts, *viz.* *Olmutz*, *Brinn*, and *Znaim*; and hath for its chief places 1. *Brinn*, dignified with the Seat of the Marquis. 2. *Olmutz*, seated on the *Morava*, from whence the Country takes its name, and is dignified with an *University*. 3. *Iglaw*, 4. *Znaim*, 5. *Kremsir*, 6. *Krumlow*, and 7. *Polna*; all places of good account.

Marquisate of *Lusatia*.

The Marquisate of *LUSASIA*, South of *Bohemia*, is divided into the Higher and Lower *Lusatia*; a Country, though but little, yet able to Arm 20000 foot. It hath for its chief places, 1. *Baudissen*, 2. *Gorlitz*, 3. *Sittaw*, 4. *Soraw*, and 5. *Guben*.

The County of *Glatzko*, and the Signiory of *Egra*, belong likewise to the Kingdom of *Bohemia*.

SAXONY.

Saxony, with its parts.

THE Lower part of *Germany*, about the *Elbe* and *Oder*, is taken up by *Saxony*, which is divided into the Higher and Lower; in the higher are the Estates of the Dukes of *Saxony*, the Estates of the Marquisate of *Brandenburg*, and the Dutchy of *Pomerania*. In the Lower *Saxony* are several *Archbishopricks*, *Bishopricks*, *Dutchies*, and *Imperial Cities*; which I have taken notice of in the *Geographical Table* of *Germany* about the *Elbe* and the *Oder*.

Higher *Saxony*, and its parts.

The *Higher SAXONY* for the most part belongs to the Duke and Elector of *Saxony*: It is bounded on the East with *Lusatia* and *Brandenburgh*, on the South with *Bavaria* and *Bohemia*, on the West with *Hassia* and *Franconia*, and on the North with Lower *Saxony* and *Brandenburgh*. It is divided into the Dutchy of *Saxony*, the Marquisate of *Misne*, the Dutchy of *Voitland*, *Turinge*, with its several parts, and the Principality of *Anhalt*. The chief places in the Dutchy of *Saxony* are 1. *Wittenberg*, seated on a plain and Sandy barren ground, once dignified with the Seats of the Dukes of *Saxony*, famous for the Sepulchers of *Luther* and *Melancthon*; it is dignified with an *University*, and of this Town there is a common Proverb, *That a man shall meet nothing but Schollers, Whores, and Swine*, which last is their food: and 2. *Worlets*, seated on the *Albis*.

Province of *Misne.* The Province of *MISNE* hath for its chief places 1. *Dresden*, seated on the *Albis*, the residence of the Duke, and Prince Elector of *Saxony*; it is a place of great strength, having on its Walls and Bulwarks 150 Peeces of Ordnance, being the *Dukes* Magazin for Arms and Men, where, upon a days warning, he can make ready 30000 Horse and Foot. 2. *Lipsick*, seated in a fruitful Plain for *Corn*, a fair Town, graced with large Streets, and beautified with many lofty Buildings of *Freestone*, and is of some account for its Universty for the study of *Philosophy*: and it is observed, that these *Philosophers*, amongst other Secrets in nature, find *Beer* so good, that the Duke gains by the Custom thereof, drunk by them and the Inhabitants, who follow their steps, about 20000 *l. per annum* sterling.

Dutchy of *Voitland.* The Dutchy of *VOITLAND* is of no large extent, and of as little note; its chief places are *Altembourg* and *Zuickaw*.

Province of *Turinge.* The Province of *TURINGE*, about 120 miles in length and breadth, is divided into several parts, and hath for its chief places 1. *Erdford*, a fair and large City; 2. *Jeve*, an Universty of *Physitians*; 3. *Smalcald*, famous for the *Lutheran* League here made, in *Anno* 1530, by the *German* Princes, which in a short time was propogated over all *Christendom*. 4. *Cobourg*, 5. *Quedelimberg*, 6. *Salsfeldt*, 7. *Mulhausen*, and 8. *Northausen*; which two last are *Imperial Cities*.

Anhalt. The Principality of *ANHALT* hath for its chief places *Dessau* and *Bernebourg*.

Marquisate of *Brandenbourg.* The Marquisate of *BRANDENBOURG*, East of *Poland*, is in compass about 520 miles, is separated into the parts of *Altmark*, *Mittle*, *Mittlemarck*, *Marche* and *Newmarck*; its chief places are 1. *Havelberg*, scituate on the River *Havel*, the Seat of a Bishop. 2. *Brandenbourg*, which communicates its name to the Country. 3. *Berlin*, seated on the River *Spre*, the ordinary residence of the Marquis. 3. *Francfort*, seated on the *Oder*, to distinguish it from the other on the *Meine*, and in a fertil Soil for *Corn* and *Wine*; it is dignified with an *Universsity* and a great *Mart Town*, but not comparable to the other *Francfort*, and 5. *Landsberg*.

Province of *Pomerania.* The Province of *POMERANIA*, South of *Brandenbourg*, is divided into nine Dutchies, whose names are set down in the *Geographical Table*. Its chief places are 1. *Stettin*, the residence of the Prince, which from a poor *Fisher Town* is now become the chief of the Country. 2. *Walgast*, once a famous *Mart Town*, where the *Russians*, *Vandals*, *Danes*, and *Saxons*, had their particular Streets of abode for Trade; but now it is lost, and from thence removed to *Lubeck*. 3. *Gripswald*, an Universty; 4. *Straelsond*, 5. *Bergen*, 6. *Stargart*, 7. *Colberg*, 8. *Stolpe*, and 9. *Lowenbourg*. That part of the Country about *Stettin* belongs to the *Swede*, and that towards *Colberg* to the Marquisate of *Brandenbourg*.

Lower *Saxony*, with its parts. The *Lower SAXONY* is divided into the *Archbishopricks*, *Bishopricks*, divers *Dutchies*, with some *Imperial Cities*, the names of all which are set down in the *Geographical Table* of *Saxony*. In this Lower *Saxony* are divers good Towns and Cities, the chief of which are 1. *Magdebourg*, a City which gives name to its Territory. 2. *Breme*, which also gives name to its Territory or Archbishoprick, is one of the *Hans-Towns*, so called from the freedom of Traffick here used; it is commodiously seated on the *Visurge*, which runneth through the City, and at five miles distance falleth into the Sea. 3. *Ferden*, 4. *Hiddelsheim*, 5. *Halberstat*; which three last are all Cities which give name to their Territories or Bishopricks. The several Dutchies are *HOLSTEIN*, or *HOLSATIA*, where are the Cities of *Kyell*, *Segelberg*, and *Gluckstad*.

Dutchy of *Luneb ourg.* The Dutchy of *LUNEBOURG* hath for its chief places 1. *Luneb ourg*, said to be so called from the *Moon*, which the ancient Inhabitants worshipped; it is an *Imperial* and *Free City*, of good strength, being well fortified with thick Mud-walls and deep Ditches, and its Buildings are fair; a place well known for its *salt Fountain* here found, over which is built a spacious

spacious House containing 52 Rooms, in every one of which are placed eight Chaldrons of *Lead*, in each of which are boiled a Tun of *Salt* every day; the profit of which is divided into three parts, one to the *Duke*, another to the *City*, and the other to the *Monastery* and some adjoyning *Earldoms*: And 2. *Celle*, the Seat of the Duke of *Luneb ourg*.

Dutchy of *Brunswick &c.* The Dutchy of *BRUNSWICK* hath for its chief places 1. *Brunswick*, seated in a fertil Soil for *Corn*, a free *Imperial City*, strongly fenced about with Walls, besides the River of *Ancor*, which encompasseth it; this place is famous for its *Mum*, which the Inhabitants are so much addicted unto, that they commonly spend the Forenoons about their Affairs, and the Afternoons in good Fellowship. 2. *Wolfenbutten*, the Seat of the Dukes of *Brunswick*.

The Dutchy of *GRUBENHAGEN*, whose chief place is *Limbeck*.

The Dutchy of *GOTTINGEN*, whose chief place is *Gottingue*.

The Dutchy of *LAWENBOURG*, whose chief places are *Lawenbourg* and *Hadler*.

The Dutchy of *MECKLENBOURG*, West of *Pomerania*, hath for its chief places 1. *Wismar*, so named from *Wisamarus*, a King of the *Vandals*, Father of *Rhadaguse*, who, with *Alarick* the *Goth*, sacked *Rome*. 2. *Rostock*, an Universty; and 3. *Scierin*.

Amongst the *Imperial Free Cities*, or *Hans-Towns*, which are about 72, most of which are seated on the Sea-shoar, or navigable Rivers, enjoying large Immunities, and able to put to Sea about 100 Sail of *Ships*; these following are of most note, 1. *Lubeck*, seated on the *Trane*, which on the North-side divides *Germany* from *Denmark*, and on a spacious Hill, on the top whereof is a beautiful *Church*, from whence lead Streets to all the Gates of the City, besides which there are nine other *Churches*; it is encompassed with a double Wall, one of *Brick*, and the other of *Earth*, and in some parts deep *Ditches*, where Ships of about 1000 Tuns are brought up to Winter from *Tremuren*, its Maritim-Port, seated on the *Baltick Sea*, from which it is about a miles distance. The Buildings of this City are of *Brick*, and very beautiful, to which they have many pleasant *Gardens*; and the Inhabitants are to be commended for their civility to Strangers, as also for their strictness in the execution of their Justice. 2. *Hambourg*, seated on a large and Sandy plain, and on the banks of the *Albis*, where it divides *Germany* from *Denmark*; it is a strong City, encompassed with a deep *Ditch*, and on the East and North-sides with a double *Ditch* and *Wall*, and hath six Gates for entrance, the Haven being shut up with *Iron-Chains* and strictly guarded: It is adorned with many fair buildings, as the *Senate-house*, the *Exchange*, &c. hath nine *Churches* for Divine Worship, and its private Houses are for the most part neatly built; it is very populous, well Inhabited, and frequented by Merchants, especially by the *English*, who have here a Factory for Woolen-Cloth. In this City there hath been observed to be 777 *Brewers*, 40 *Bakers*, one *Lawyer*, and one *Physitian*; the reason of this great disproportion (as one wittily observed) was, that a Cup of *Nimis* is the best Vomiting potion, and their Controversies were sooner composed over a Pot of Drink, than by order of Law. 3. *Stoad*, commodiously seated for Traffick on the *Elve*, about five miles distance from *Hambourg*, once a place of a better Trade than now it is. These Cities are called *Free*, from their great Prerogatives in coyning Money, and ruling by their own Laws; and *Imperial*, as knowing no Lord or Protector, but the *Emperour*, to whom they pay two Thirds of such Contributions as are assessed in the Assemblies.

Germany is a spacious Country, and very populous; the People are of a strong Constitution and good Complexion, are very ingenious and stout, much given to drink, but of a generous disposition: the Poorer sort great Pains-takers, and the Nobles (which are many, for the Title of the Father descends to all their Children) are either good *Scholars* or stout *Souldiers*, so that a Son of a Duke is a Duke; a thing which the *Italians* hold so vain and foolish, that in derision they say, That the Dukes and Earls of *Germany*, the

Dons of *Spain*, the Nobility of *Hungaria*, the Biſhops of *Italy*, the Lairds of *Scotland*, the Monſieurs of *France*, and the younger Brethren of *England*, make a poor Company.

There are ſo many inferiour, (yet free) *Princes* in this Country, that in a days Journey a Traveller may meet with many *Laws*, and as many ſorts of *Coin*, every Prince making uſe of his own *Laws* and *Coins*, whoſe Laws the *Emperours* are ſworn to keep; which made one ſay, that the *Emperour* is *King of Kings*, the King of *Spain King of Men*, and the King of *France King of Aſſes*, as bearing his heavy Taxes.

The fertility and Commodities of *Germany*.

The Country is generally fertil and temperate, being ſcituate under the *Temperate Zone*. Here are many Mines of *Silver* and other Inferiour *Mettals*; it hath ſtore of *Corn* and *Wine*, which they tranſport to forreign Countries, as likewiſe *Linnen*, *Laces*, *Woollen*, and divers Manufactures, alſo *Quickſilver*, *Alom*, *Arms* of all ſorts, and other *Iron-works*; and its *Ponds*, *Lakes*, and *Rivers* are well ſtored with *Fiſh*.

Its chief Rivers.

The chief Rivers of *Germany* are, the *Rhine*, the *Weſer*, the *Elbe*, and the *Oder*; for the *Danube* having but a ſmall courſe in this *Country*, ſhall be elſewhere ſpoken of.

The Commodities and Trade of *Belgium*.

That part which we call *BELGIUM*, or the *Low Countries*, is of a large extent, ſeated in the *North Temperate Zone*, under the 8 and *9th Climates*, the longeſt day being 17 *hours*; the *Air* by reaſon of the induſtry of the Inhabitants in draining the *Mariſhes*, and turning the ſtanding-Waters into running-Streams, is now very healthful, as being purged from thoſe groſs Vapours which did thence ariſe: the Country lieth exceeding low, and therefore ſubject to Inundations. The Commodities that theſe Countries yield, are, *Linnens*, *Yarn*, *Thread*, *Sayes*, *Silks*, *Velvets*, *Tapeſtries*, *Pictures*, *Prints*, *Blades*, *Sope*, *Butter*, *Cheeſe*, *Fiſh*, *Pots*, *Bottles*, *Ropes*, *Cables*, *Armour*, ſeveral Manufactures, &c. beſides the Commodities of *India*, *Perſia*, *China*, *Turkey*, and other parts, which are here had in great plenty, by reaſon of the vaſt Trade they drive in all parts.

The

- The Eſtates of the Crown of POLAND, are
  - POLAND; under the name of which is comprized,
    - The Kingdom of POLAND, as it is divided into the
      - Higher, or Little POLAND; where are the Palatinates of
        - Cracou, with its Caſtlewicks of: Cracou, Vounicz, Sandecz, Biecz.
        - Sandomirie, with its Caſtlewicks of: Sandomirz, Viſlicz, Radom, Zawichoſt, Zarnaw, Malogocz, Czechow.
        - Lublin, with its Caſtle —: Lublin.
      - Lower, or Great POLAND; where are the Palatinates of
        - Poſna, where are the Caſtlewicks of: Poſna, Meſeritz, Ragozno, Srenck, Brzeſti, Crimn, Sandock.
        - Kalisch, with its Caſtlewicks of: Kalisch, Kamin, Gneſna, Landa, Nacka, Biechow.
        - Sirad, with its Caſtlewicks of: Sirad, Wielun, Koxpirz.
        - Lencini, with its Caſtlewicks of: Lencici, Breſſini, Inowlocz.
        - Dobrzin, with its Caſtlewicks of: Dobrzin, Rippin, Stonck.
        - Ploczk, with its Caſtlewicks of: Ploczk, Raſuntz, Sceps.
        - Rava, with its Caſtlewicks of: Rava, Sochaczow, Goſtiny, Cowal.
    - Divers Dutchies, with their Caſtlewicks, to wit
      - RUSSIA NOIRE, which is eſteemed in the Higher Poland; where are the Palatinates of
        - Leowenborg, or Leopolis, with its Caſtlewicks of: Leowenborg, Halicz, Drzemiſl, Zamoſcie.
        - Belz, with its Caſtlewicks of: Belz, Chelm.
      - CUJAVIA, which is eſteemed in the Lower Poland; where are the Palatinates of
        - Brzeſti, with its Caſtlewicks of: Brzeſti, Kruſnick, Cowal.
        - Uladiſlau, with its Caſtlewicks of: Uladiſlau, Bidgoſt.
      - MAZOVIA, alſo eſteemed in the Lower Poland; where are the Palatinates of
        - Czersk, with its Caſtlewicks of: Warzaw, Liw, Czersk, Wiſſegrod, Zakrozzini, Ciechanow, Wiſna.
    - PRUSSIA, or PRUSSE; as it is divided in POLAQUIE,
      - PRUSSIA ROYALE; where are the Palatinates of
        - Dantzick, Elbing, Marienburg, Culm, with its Caſtlewicks of: Dantzick, Elbing, Marienburg, Culm.
      - PRUSSIA DUCALE, with its Palatinate and Caſtlewick of Koningsberg. with its Palatinate of Bielsk, with its Caſtlewick of —— Bielsk.
  - And divers other Eſtates, Dutchies, &c. united, or ſubject to the Crown of POLAND, viz.
    - Dutchy of LITHUANIA, under the name of which are comprized,
      - LITHUANIA; where are the Palatinates of
        - Wilna, with its Caſtlewicks of: Wilna, Oſmiana, Wilkomirs.
        - Braſlaw, with its Caſtlewicks, Braſlaw, Miadzial.
        - Troki, with its Caſtlewicks, Troki, Rowno, Grodno, Lida.
        - Minsk, with its Caſtlewicks of: Minsk, Boriſſow, Robaczow, Rzeczica, Mary.
        - Minsk, with its Caſtlewicks of: Mſciſlaw, Mohilow, Orſſa.
        - Novogrodeck, with its Caſtlewicks of: Novogrodeck, Slonim, Woskowiska.
        - Poloſczk, with its Caſtlew. of: Poloſczk.
        - Vitepsk, with its Caſtlew. of: Vitepsk.
        - Breſſici, with its Caſtlew. of: Breſſici.
        - POLESIE, where is —— Palatinate and Caſtlewick of: Roſienie.
        - SAMOGITIE, with its Caſtlewicks of: Luſue, Wolodomiers, Krzemieiacc.
    - Dutchy of VOLHYNIE, as it is divided in the
      - Higher VOLHYNIE, with its Palatinate of
        - Luſue, with its Caſtlewicks of: Kiovia, Owruce, Zitomirz.
      - Lower VOLHYNIE, with its Palatinate of
        - Kiovia, with its Caſtlewicks of: Kamieniec.
    - PODOLIE, with its Palat. of the Part of MOSCOVIA, where are
      - Higher PODOLIE, as
        - Kamieniec, with its Caſtlew. of: Braclaw.
      - Lower PODOLIE, as
        - Braclaw, with its Caſtlewick of: Smolensko.
      - The Dutchies of
        - Smolensko, with its Caſtlew. of: Novogrodeck.
        - Novogrodeck, with its Caſt. of:

POLAND.

Poland, and its parts.

THE Estates of the Crown of *Poland* ought to be considered in two sorts, the one called the *Estates* of *POLAND*, and the other of *LITHUANIA*; these two having heretofore had their *Kings* and *Dukes* apart, and not having been united till within about 270 years. The *Estates* of *Poland* shall be, *Poland*, which we will divide into the Higher and Lower, or Lesser and Greater; and into the Dutchies of *Russia Noire*, *Cajavia*, *Mazovia*, and *Prussia*. The *Estates* of *Lithuania* may be divided into *Lithuania*, *Volhinia*, *Podolia*, &c. all Dutchies; but *Lithuania* much the greater; wherefore he who possesseth them is entituled the Great Duke of *Lithuania*.

Its extent.

All these Estates of *Poland* and *Lithuania* taken together, extend from about the 48*th degree* of *Latitude* unto the 57*th*, which are about 225 *French* Leagues; and from the 38*th* of *Longitude* unto the 61, and have near as much Continent again as *France*.

Bounds.

They are bounded on the East for the most part by *Moscovy*, and part of the *Petit Tartars*; on the South the Mountains of *Caprack* and the River *Neister* divide them from *Hungaria*, *Transilvania*, and *Moldavia*; on the West by *Germany*, and toucht in part on the *Baltick* Sea; and on the North they are bounded part by *Livonia*, and *Moscovy*.

Ancient Inhabitants.

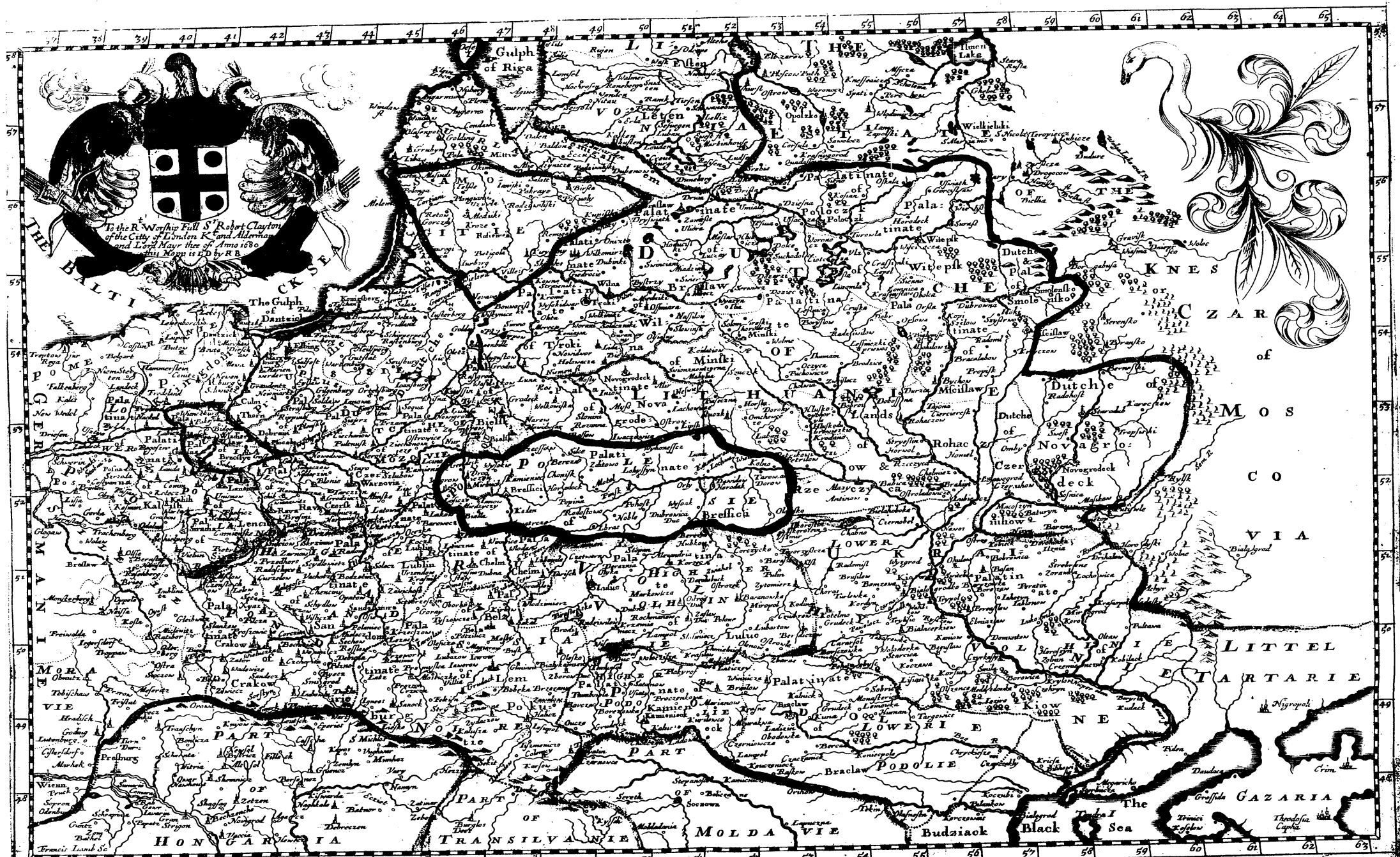
The Ancient name of *Poland* was *Sauromatia*, from its Inhabitants the *Sauromatæ*; afterwards by *Lechius*, the first Duke hereof, in *Anno* 550, it was called *Poland*, which signifies a *plain Country*, as generally it is. It was made a Kingdom by the Emperour *Otho* the Third, *Anno* 1000, *Boleslaus* being Duke, and hath ever had its *Dukes* and *Kings* elected by the States; who, by reason of their vicinity to the *Turks*, generally chuse a *Warriour*.

Fertility, Commodities, &c.

The Country is plain, well clothed with *Firs* and other *Timber-Trees*; the *Air* is so cold, that they have neither *Wine* nor *Grapes*, instead of which, having store of *Barly*, they make use of the Old drink of *England*, viz. *Ale*. The Country is well furnished with *Grains* and *Fruits*, but they are but lean; their chief Commodities are rich *Furs*, *Horses*, *Hony*, *Wax*, *Bow-staves*, *Buff-hides*, *Ambergreese*, *Flax*, *Linnen-cloth*, *Masts*, *Cordage*, *Boards*, *Wainscot*, *Timber*, *Rozin*, *Tar*, and *Pith* of both kinds, *Match*, *Iron*, *Stock-fish*, *Salt* digged out of the Earth, *Pot-ashes*, *Rye* in great plenty, for which it hath made *Dantzick* famous. It is well furnished with *Flesh*, *Fowl*, and *Fish*; and towards the *Carpatian* Mountains of *Hungaria* are found Mines of *Gold* and *Silver*, as also *Iron* and *Brimstone*.

Its People.

The People are ingenious, and much addicted to Languages, especially *Latin*; there being scarce a man, though of a mean condition, but understands it: according to their abilities, they are more inclined to prodigality than penuriousness; as for the *Gentry*, they are free, but the *Peasants* are no better than Slaves, being under subjection to their Lords. They are esteemed good *Souldiers*, are proud, much given to costly Apparel and delicious Diet; they use the *Sclavonian* Language: in matters of *Religion* they are said to embrace all, so they have any thing of *Christianity* in them; some following the Reformed Churches, some embracing the Doctrine of *Calvin*, others of *Luther*, and some of *Augustine*, *Bohemian* and *Helvetian* Confessions, and others


To the R Worship Full S^r Robert Clayton
of the Citty of London K^t and Alderman
and Lord Mayr thre of Anno 1680
this Mapp is D by R B
THE BALTICK SEA
The Gulph of Riga
The Gulph of Dantzick
Dantzick
Elbing
Thorn
Culm
Marienburg
Graudentz
Dirschaw
Stargard
Schwetz
Konitz
Tuchel
Pr. Eylau
Memel
Mitta
Windau
Libau
Pilten
Goldingen
Frauenburg
Braunsberg
Heilsberg
Rastenburg
Lyck
Angerburg
Oletzko
Ortelsburg
Neidenburg
Soldau
Neumarck
Strasburg
Mlawa
Plotzk
Rawa
Gostinin
Lowicz
Gnesna
Kalish
Pr. Lentschitz
Pr. Sirad
Pr. Rava
Pr. Czersk
Pr. Belz
Pr. Lublin
Pr. Chelm
Pr. Volhynia
Pr. Podolia
Pr. Kiovia
Pr. Braclaw
Pr. Kiow
Pr. Polotzk
Pr. Witepsk
Pr. Smolensko
Pr. Mscislaw
Pr. Novogrodeck
Pr. Brzesc
Pr. Minski
Pr. Troki
Pr. Wilna
Pr. Brzeslaw
Pr. Nova Lithuania
Pr. Podlachia
Pr. Mazovia
Pr. Cujavia
Pr. Pomerania
Pr. Posnania
Pr. Lencicia
Pr. Sandomiria
Pr. Cracovia
Pr. Siradia
Pr. Russia Nigra
Pr. Russia Alba
Pr. Severia
Pr. Volhynia
Pr. Podolia
Pr. Braclaw
Pr. Kiovia

others are of the Church of *Rome*, which doth occasion the Saying, *That he that hath lost his Religion, let him seek it at* Poland. Written Laws they have but few, if any, *Custom* and *Temporary Edicts* being the Rule both for their Government and Obedience.

The Revenue of the King is not great for so large a Country, and that which is, he receiveth from them quarterly, the Kingdom being divided into four Parts, every one of which keepeth the *King* and *Court* a quarter; which Revenue is not certain, but more or less according to his occasions, by War, Marriage of his Daughters, or the like. The Revenue of the *King*.

The Kingdom is divided throughout into *Palatinates* and *Castlewicks*. *Poland*, taken particularly, is divided into the Higher and Lower; in the Higher are the *Palatinates* of *Cracou*, *Sandomirz*, and *Lublin*. Places of most note in these parts are 1. *Cracou*, or *Cracovia*, seated in a Plain, and on the Banks of the *Vistula*, dignified with the residence of the King: It is in form round, the Houses fair and lofty, and built of *Free-stone*; in the midst of the City is a large Quadrangle *Market-house*, where is seated the *Cathedral Church*, and the *Senate-house* for the Citizens, about which are several Shops for Merchants. The City is encompassed with two strong *Stone* Walls, and a dry Ditch; on the East-side of the City is the Kings *Castle*, being fair, well built, and pleasantly seated on a Hill, as also the *Kings* and *Queens* Lodgings; on the West is a *Chappel* where the Kings are interr'd, and on the North-side Lodgings for Entertainment and Feasting; the South-side being without Buildings: but as to matters of *Trade*, this City is of small account. *Poland*, with its parts and chief places.

Also *Sandomirz* and *Lublin*, both chief Cities of their *Palatinates*, are in the higher *Polonia*, or *Poland*.

In the Lower *Poland* are the *Palatinates* of *Posna*, *Kalisch*, *Sirad*, *Lencini*, *Dobrzin*, *Ploczk*, and *Rava*; whose chief Cities or places bear the same name, and are the residence of their *Palatines*. Besides which there are several other Towns of good note, which are taken notice of in the *Geographical Table* of the Kingdom; and in chief *Posna* and *Gnesna*, dignified with the See of an *Archbishop*, who during the *Interregnum* of the King, holdeth the Supream Authority in the Kingdom, and summoneth the *Diets*. Lower Poland.

To *Poland* doth also belong the Dutchies of *Russia*, *Noire*, *Cujavia*, *Mazovia*, *Prussia*, and *Polaquie*.

RUSSIA NOIRE hath for its chief places *Lowenberg* and *Belz*, both chief of their *Palatinates*. *Russia Noire*.

CUJAVIA hath for its principal places *Brzesti* and *Uladislau*, both chief of their *Castelwicks*. *Cujavia*.

MAZOVIA hath only one *Palatinate*, viz. *Czersk*, under which is comprised several *Cities* and *Castlewicks*; the chief of which is *Warsaw*, one of the fairest in the Kingdom, it oft-times being the residence of the Kings of *Poland*, a place noted for its excellent *Metheglin* here made. *Mazovia*, with its places.

PRUSSIA is considered in two parts, which are called *Royale* and *Ducale*: *Prussia Royale* is immediately subject to the Crown of *Poland*, and hath its *Palatinates* in the Cities of 1. *Dantzick*, seated on the *Vistula*, at its influx into the *Baltick Sea*, and at the foot of a great Mountain, which hangs over it; it is the fairest, best, and of the greatest Trade of any in *Prussia*. Through this City runs a River very commodious to the Inhabitants, whereon are many *Mills* for the grinding of Corn, which is here found in great plenty; as also a *Water-Mill*, for the conveyance of water in Pipes to their Houses; and by reason of its great Trade for *Corn* with *England* and other parts, they have a great many *Granaries* or *Store-houses* for the same, which is hither brought them from *Poland*. 2. *Elbin*, though but small, yet a fair City, and indifferently well frequented by the *English* Merchants. 3. *Marienburg*, the Seat of the Masters of the *Dutch* Knights; 4. *Culne*, and 5. *Thorn*, which though it hath no *Palatinate*, is esteemed by many next to *Dantzick*. *Prussia Ducale* belongs to the Marquess of *Brandenbourg*, who holds it from the Crown of *Poland*. It hath only one *Palatinate* at *Konings berg*, seated *Prussia*.

on

on an Inlet of the *Baltick Sea*, and washed with the River *Pegel*; it is a fair City, a famous Mart, and a good University, and before its Coast is gathered great quantity of *Ambergriece*: This *Ambergriece* is the juyce of a Stone growing like *Coral* on a Rock in the North-Sea, continually covered with Water; and in the Months of *September* and *December*, by the violence of the Sea, is rent from the Rocks and cast into the Havens of the Neighbouring Countries.

Polaquit. *POLAQUIE* is a small Province between the Estates of *Poland* and *Lithuania*, and seems to have belonged to *Mozavia*; *Bielsk* is the Seat of its *Palatinate*. And hitherto we have treated of the Estates of *Poland*, almost all on the *Vistula*, or the Rivers that fall into it, on which are seated the three faireſt Cities of these Quarters, *viz. Cracow*, towards its Spring; *Warsaw*, towards the middle of its course; and *Dantzick*, towards its principal Mouth falling into the Sea.

Estates of *Lithuania.* The Estates of *LITHUANIA* are East of *Poland*, and about the River *Neiper*; they are divided into the *Palatinates* of *Wilna*, *Breslaw*, *Troki*, *Minsk*, *Novogrodeck*, *Polosczk*, and *Vitepsk*. Its chief places are *Wilna*, an *University*, and the *Premier Palatinate*; the other principal places bear the name of its *Palatinate*, and are of some account.

Polesit. *Samogitit.* The Quarter of *POLESIE* hath for its chief place *Bressist*. *SAMOGITIE* hath no *Palatinate*, and hath for its chief place *Rosienie*, whose Houses are built with Mud and Straw walls.

Volhynit. The Dutchy of *VOLHYNIE* is divided into the Higher and Lower, and hath the *Palatinates* of *Lusuc* and *Kiovia*; its chief places bear the names of their *Palatinates*.

Podolit. The Dutchy of *PODOLIE* is also divided into the Higher and Lower, and hath the *Palatinates* of *Kamieniec* and *Braclaw*, whose chief places bear the same name.

The *Turks* and *Swedes* possessors of some parts of *Poland.* The *Turks* are possessed of *Oczacou* in the Lower *Podolia*, and on the *Black Sea*; likewise of *Dassin* in the Lower *Volhynia*, and on the *Borsthenes*. The *Swedes* have likewise, within these few years, taken all *Livonia*; the Dutchy of *Curland*, wherein is the City of *Mittau* remaining only of that Province under the protection of the Crown of *Poland*; and moreover the *Vayvode* of *Moldavia*, and sometimes likewise he of *Valachia* renders some Duties to *Poland*. In *Lithuania* are divers Dukedoms, as of *Slusk*, *Nesvvies*, *Birga*, &c. whose Princes are powerful and have great Priviledges. The Dukedoms of *Smolensko* and *Novogrodeck*, which are of a great extent, and run all along the Coast of *Lithuania*, towards *Moscovia*, belong at present to the Crown of *Poland*, although part of *Moscovy*.

The principal Rivers in *Poland* are the *Vistula*, the *Niemen*, the *Dovine*, the *Neiper* or *Borysthenes*, and the *Neyster*; most of which are very considerable for largeness, fairness, and swiftness of Stream.

SCANDI-

A Generall Mapp of Scandinavia Where are y Estates ane Kingdomes of Danmarke Norwaye and Sweden by Monsieur Sanson



To the Rt. Worshipfull S.r Thomas Fitch of Eltham and Mount Mascall in the parish of North Cray in Kent Kt. This Mapp D D by R.B.

SEPTENTRIONAL or GLACICK OCEAN

Isls of Shetland

Isls of Orkney

PART OF SCOTLAND

PART OF ENGLAND

Berghen Berg

Staffanger

Lindes Nes

Pointe de Scaw

Rugen I

Gotland Isle

Oeland I

Aland I

Dagho I

Oesel I

THE BALTIQUE SEA

THE GULPH of BOTHNIE

GULPH of FIN LAND

GOL of LUBECK

GOL of DANTZICK

KINGDOME of POLAND

WHITE SEA of OLD GRANDUICUS SINUS

Trondhem

Kongsberg

Kiöpenhaven

Malmoe

Ystadt

Calmar

Stockholm

Abo

Wyborg

Ladoga or Ladesko ozero

Onega ozero

Novogrod

Kingisberg

Memel

Dantzick

Rigen

Wisby

Borkholm

Helsingfors

Nyslot

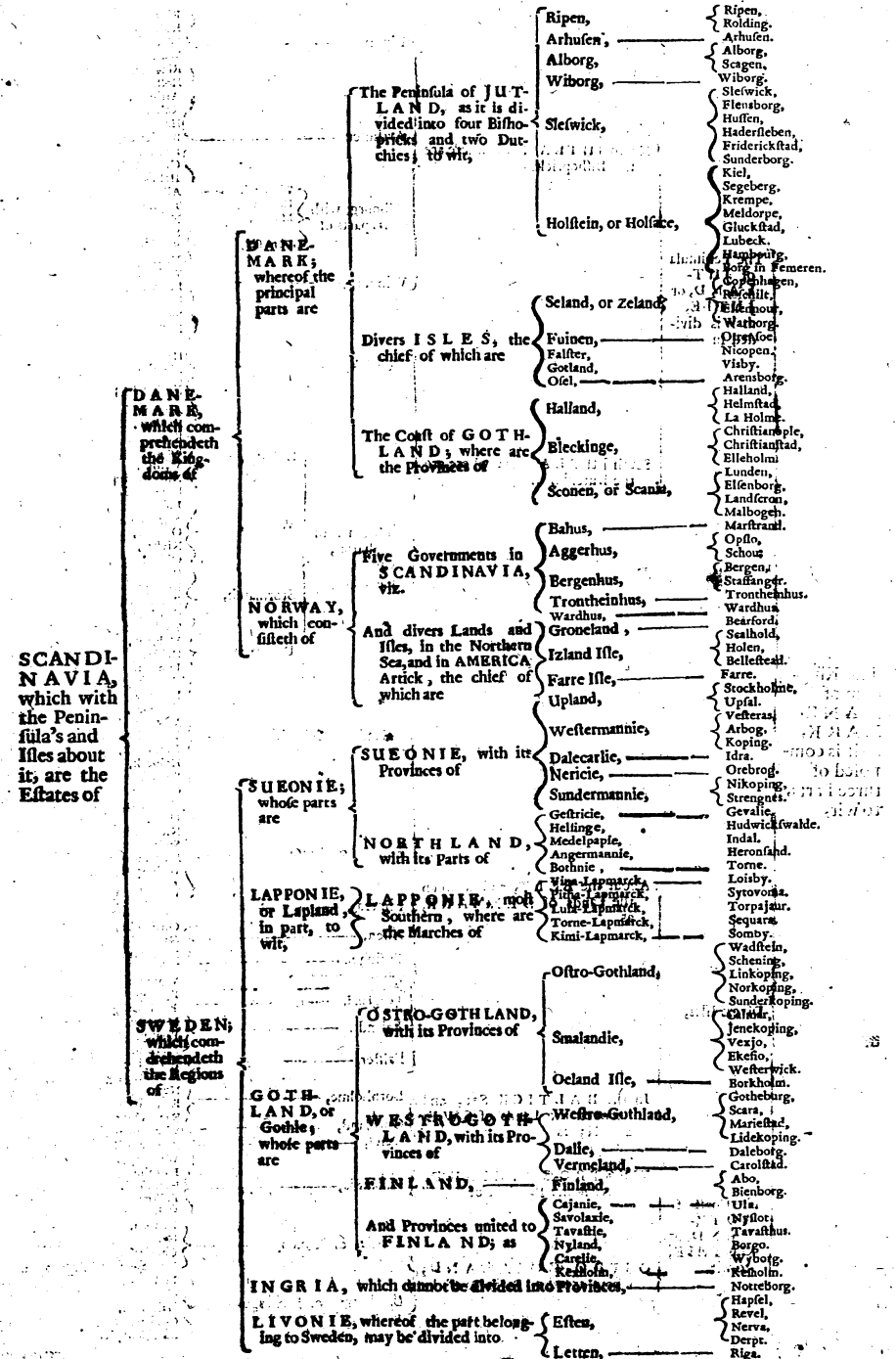
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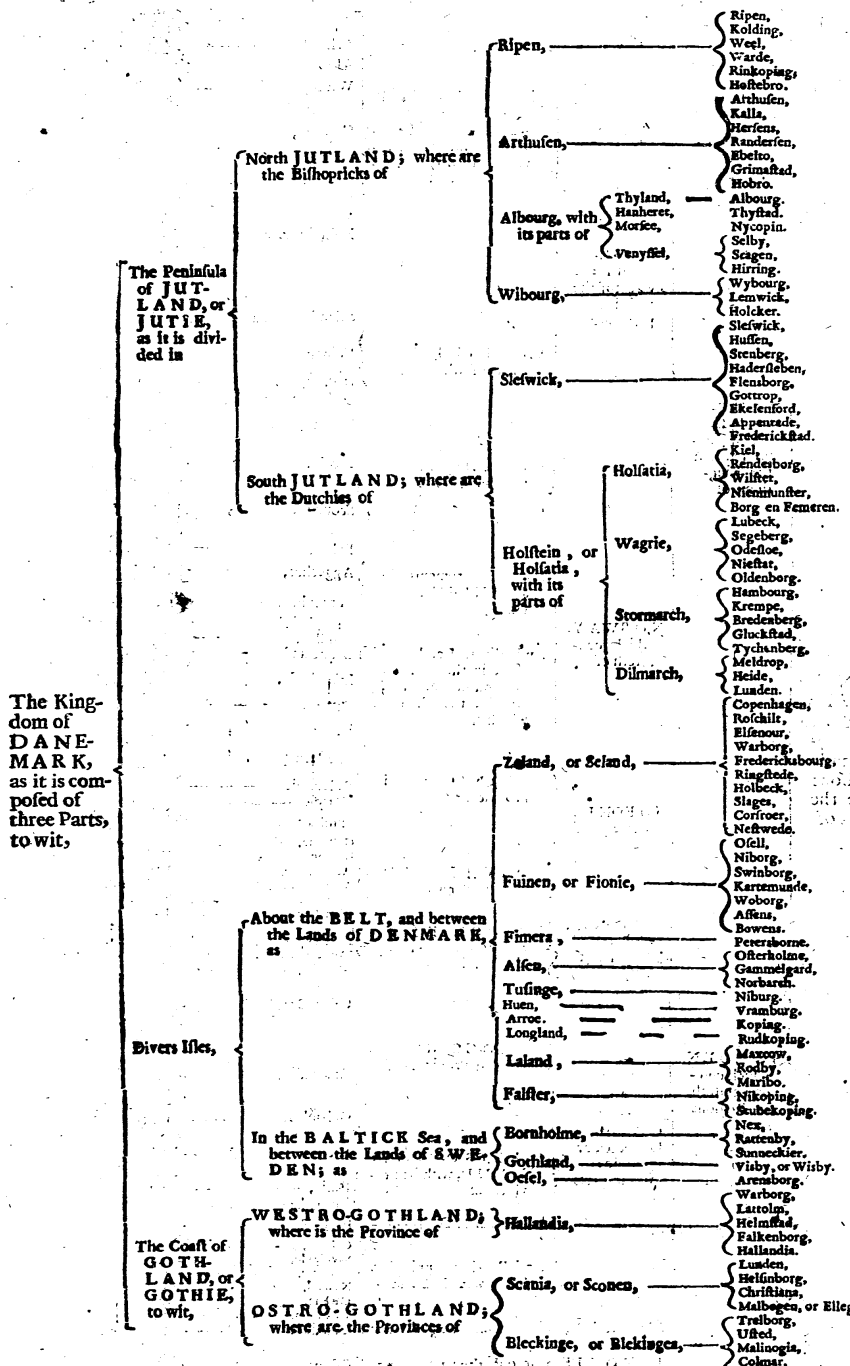
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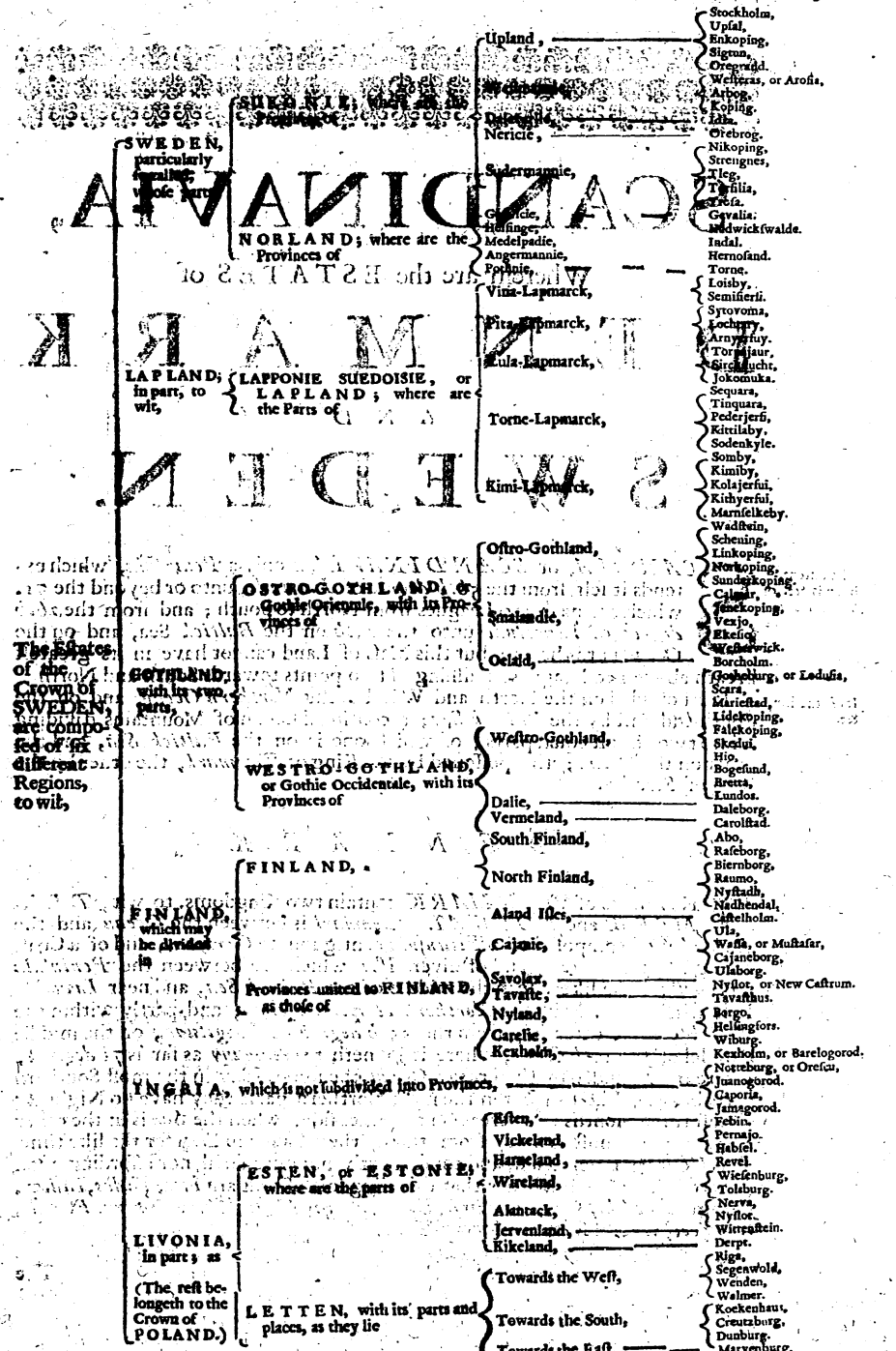
Susia

Orssa


SCANDINAVIA, which with the Peninſula's and Iſles about it, are the Eſtates of
DANEMARE, which comprehendeth the Kingdoms of
DANEMARK; whereof the principal parts are
The Peninſula of JUTLAND, as it is divided into four Biſhoprickes and two Dutchies; to wit,
Ripen,
Ripen, Rolding.
Arhuſen,
Arhuſen.
Alborg,
Alborg, Scagen.
Wiborg,
Wiborg.
Sleſwick,
Sleſwick, Flensborg, Huſſen, Hadersleben, Friderickſtad, Sunderborg.
Holſtein, or Holſace,
Kiel, Segeberg, Krempe, Meldorpe, Gluckſtad, Lubeck, Hamburg, Lore in Femeren.
Divers ISLES, the chief of which are
Seland, or Zeland,
Copenhagen, Roſchilde, Elſenoure, Warborg.
Fuinen,
Odenſoe.
Falſter,
Nicopen.
Gotland,
Viſby.
Oſel,
Arensborg.
The Coaſt of GOTHLAND; where are the Provinces of
Halland,
Halland, Helmſtad, La Holme.
Bleckinge,
Chriſtianople, Chriſtianſtad, Elleholmi
Sconen, or Scania,
Lunden, Elſenborg, Landſcron, Malbogen.
NORWAY, which conſiſteth of
Five Governments in SCANDINAVIA, viz.
Bahus,
Marſtrand.
Aggerhus,
Opſlo, Schous
Bergenhus,
Bergen, Staffangar.
Trontheinhus,
Trontheinhus.
Wardhus,
Wardhus, Bearford.
And divers Lands and Iſles, in the Northern Sea, and in AMERICA Artick, the chief of which are
Groneland,
Sealhold, Holen, Belleſtead.
Izland Iſle,
Farre Iſle,
Farre.
SWEDEN; which comprehendeth the Regions of
SUEONIE; whoſe parts are
SUEONIE, with its Provinces of
Upland,
Stockholme, Upſal.
Weſtermannie,
Veſteras, Arbog, Koping.
Dalecarlie,
Idra.
Nericie,
Orebrog.
Sundermannie,
Nikoping, Strengnes.
NORTHLAND, with its Parts of
Geſtricie,
Gevalie.
Helſinge,
Hudwickſwalde.
Medelpapie,
Indal.
Angermannie,
Heronſand.
Bothnie,
Torne.
LAPPONIE, or Lapland, in part, to wit,
LAPPONIE, not Southern, where are the Marches of
Vine-Lapmarck,
Loisby.
Pitte-Lapmarck,
Sytovoma.
Lule-Lapmarck,
Torpajatur.
Torne-Lapmarck,
Sequara.
Kimi-Lapmarck,
Somby.
GOTHLAND, or Gothie; whoſe parts are
OSTRO-GOTHLAND, with its Provinces of
Oſtro-Gothland,
Wadſtein, Schening, Linkoping, Norkoping, Sunderkoping.
Smalandie,
Calmar, Jenekoping, Vexjo, Ekeſio, Weſterwick.
Oeland Iſle,
Borkholm.
WESTROGOTHLAND, with its Provinces of
Weſtro-Gothland,
Gotheburg, Scara, Marieſtad, Lidekoping.
Dalie,
Daleborg.
Vermeland,
Caroliſtad.
FINLAND,
Finland,
Abo, Bienborg.
And Provinces united to FINLAND; as
Cajanie,
Uia.
Savolaxie,
Nyſlot.
Tavaſtlie,
Tavaſthus.
Nyland,
Borgo.
Carelie,
Wyborg.
Kexholm,
Kexholm.
INGRIA, which cannot be divided into Provinces,
Notteborg.
LIVONIE, whereof the part belonging to Sweden, may be divided into
Eſten,
Hapſel, Revel, Nerva, Derpt.
Letten,
Riga.


The Kingdom of DANEMARK, as it is composed of three Parts, to wit,
The Peninsula of JUTLAND, or JUTIE, as it is divided in
North JUTLAND; where are the Bishopricks of
Ripen,
Ripen, Kolding, Weel, Warde, Rinkoping, Hoftebro.
Arthusen,
Arthusen, Kalla, Herfens, Randersen, Ebelso, Grimstad, Hobro.
Albourg, with its parts of
Thyland, Hanheret, Morsee, Venysiel,
Albourg. Thysted. Nycopin.
Wibourg,
Selby, Seagen, Hirring.
Wybourg, Lemwick, Holcker.
South JUTLAND; where are the Dutchies of
Sleswick,
Sleswick, Huffen, Stenberg, Hadersleben, Flensborg, Gottrop, Ekefenford, Appenrade, Frederickstad.
Holstein, or Holsatia, with its parts of
Holsatia,
Kiel, Rendesborg, Crifter, Niemunster, Borg en Femeren.
Wagria,
Lubeck, Segeberg, Odesloe, Nieftat, Oldenborg.
Stormarch,
Hambourg, Krempe, Bredesberg, Gluckstad, Tychanberg.
Dilmarch,
Meldrop, Heide, Lunden.
Divers Isles,
Zeland, or Seland,
Copenhagen, Roschilt, Elsenour, Warborg, Frederickabourg, Ringstede, Holbeck, Slages, Corsroer, Nestwede.
Fuinen, or Fionie,
Osell, Niborg, Swinborg, Kartemunde, Woborg, Affens, Bowens.
About the BELT, and between the Lands of DENMARK, as
Fimera,
Peersborne.
Alsen,
Ofterholme, Gammelgard, Norbarch.
Tusinge,
Niburg.
Huen,
Vramburg.
Arroe.
Koping.
Longland,
Rudkoping.
Laland,
Maxoow, Rodby, Maribo.
Falster,
Nikoping, Stubekoping.
In the BALTICK Sea, and between the Lands of SWEDEN; as
Bornholme,
Nex, Rattenby, Sunneckier.
Gothland,
Visby, or Wisby.
Oesel,
Arensborg.
The Coast of GOTHLAND, or GOTHIE, to wit,
WESTRO-GOTHLAND; where is the Province of
Hallandia,
Warborg, Larrolm, Helmstad, Falkenborg, Hallandia.
OSTRO-GOTHLAND; where are the Provinces of
Scania, or Sconen,
Lunden, Helsinborg, Christians, Malbogen, or Ellegeboges.
Bleckinge, or Blekinges,
Treiborg, Ufted, Malinogia, Colmar, Christianople.

The


The Estates of the Crown of SWEDEN, are compofed of fix different Regions, to wit,
SWEDEN, particularly fo called; whofe parts are
Upland,
Stockholm, Upfal, Enkoping, Sigtun, Oregrund.
Nericie,
Weftheras, or Arofia, Arboga, Koping, Ida, Orebrog.
Sudermannie,
Nikoping, Strengnes, Tleg, Turilia, Arcfa.
Gothicie,
Gevalia, Wadwickfwalde.
NORLAND; where are the Provinces of
Helsinge,
Medelpadie,
Angermannie,
Pothnie,
Iadal, Hernofand, Torne.
LAPLAND; in part, to wit,
LAPPONIE SUEDOISIE, or LAPLAND; where are the Parts of
Vitis-Lapmarck,
Loisby, Semifierli.
Pitis-Lapmarck,
Sytovoma, Lochtery, Arnyertfuy.
Lula-Lapmarck,
Torneajaur, Sirckijuchr, Jokomuka.
Torne-Lapmarck,
Sequara, Tinquara, Pederjerfi, Kittilaby, Sodenkyle.
Kimi-Lapmarck,
Somby, Kimiby, Kolajerfui, Kithyerfui, Marnfelkeby.
GOTHLAND, with its two parts,
OSTRO-GOTHLAND, or Gothie Orientale, with its Provinces of
Oftro-Gothland,
Wadftein, Scheuing, Linkoping, Norkoping, Sundrekoping, Calmar, Taneskoping, Vexio, Ekesio, Wexiewick, Borcholm.
Smalandle,
Oelald,
Gosheburg, or Lodusia, Scara, Marieftad, Lidekoping, Falekoping, Skedui, Hio, Bogefund, Bretta, Lundos.
WESTRO-GOTHLAND, or Gothie Occidentale, with its Provinces of
Weftro-Gothland,
Dalie,
Daleborg. Carolftad.
Vermeland,
FINLAND, which may be divided in
FINLAND,
South Finland,
Abo, Raseborg.
North Finland,
Biernborg, Raumo, Nyftadh, Nadhendal, Caftelholm.
Aland Isles,
Cajanie,
Ula, Wafa, or Muftafar, Cajaneborg, Ulaborg.
Provinces united to FINLAND, as thofe of
Savolax,
Nyflot, or New Caftrum.
Tavalie,
Tavafthus.
Nyland,
Borgo, Helsingfors.
Carelie,
Wiburg.
Kexholm,
Kexholm, or Barelogorod.
INGRIA, which is not fubdivided into Provinces,
Notteburg, or Orefcu, Juanogorod, Caporia, Jamagorod.
LIVONIA, in part; as
ESTEN, or ESTONIE; where are the parts of
Eften,
Febin, Pernajo, Habfel, Revel.
Vickeland,
Harqeland,
Wiefenburg, Tolsburg.
Wirceland,
Nerva, Nyflot, Wittenftein.
Akintack,
Derpt.
Jervenland,
Rikeland,
(The reft belongeth to the Crown of POLAND.)
LETTEN, with its parts and places, as they lie
Towards the Weft,
Rigs, Segenwold, Wenden, Walmer.
Towards the South,
Kockenhaut, Creutzburg, Dunburg.
Towards the Eaft,
Maryenburg.

SCANDINAVIA,

Wherein are the ESTATES of

DENMARK

AND

SWEDEN.

The extent, bounds, &c. of *Scandinavia*.

SCANDIA, or *SCANDINAVIA*, is only a *Peninsula*, which extends it self from the *56th degree* of *Latitude*, unto or beyond the 71, which are near 400 Leagues from North to South; and from the *26th degree* of *Longitude* unto the *45th* on the *Baltick* Sea, and on the *Ocean* unto the 53; but this Mass of Land cannot have in its greatest breath above 150 Leagues, finishing in two points towards South and North.

Its scituation, &c.

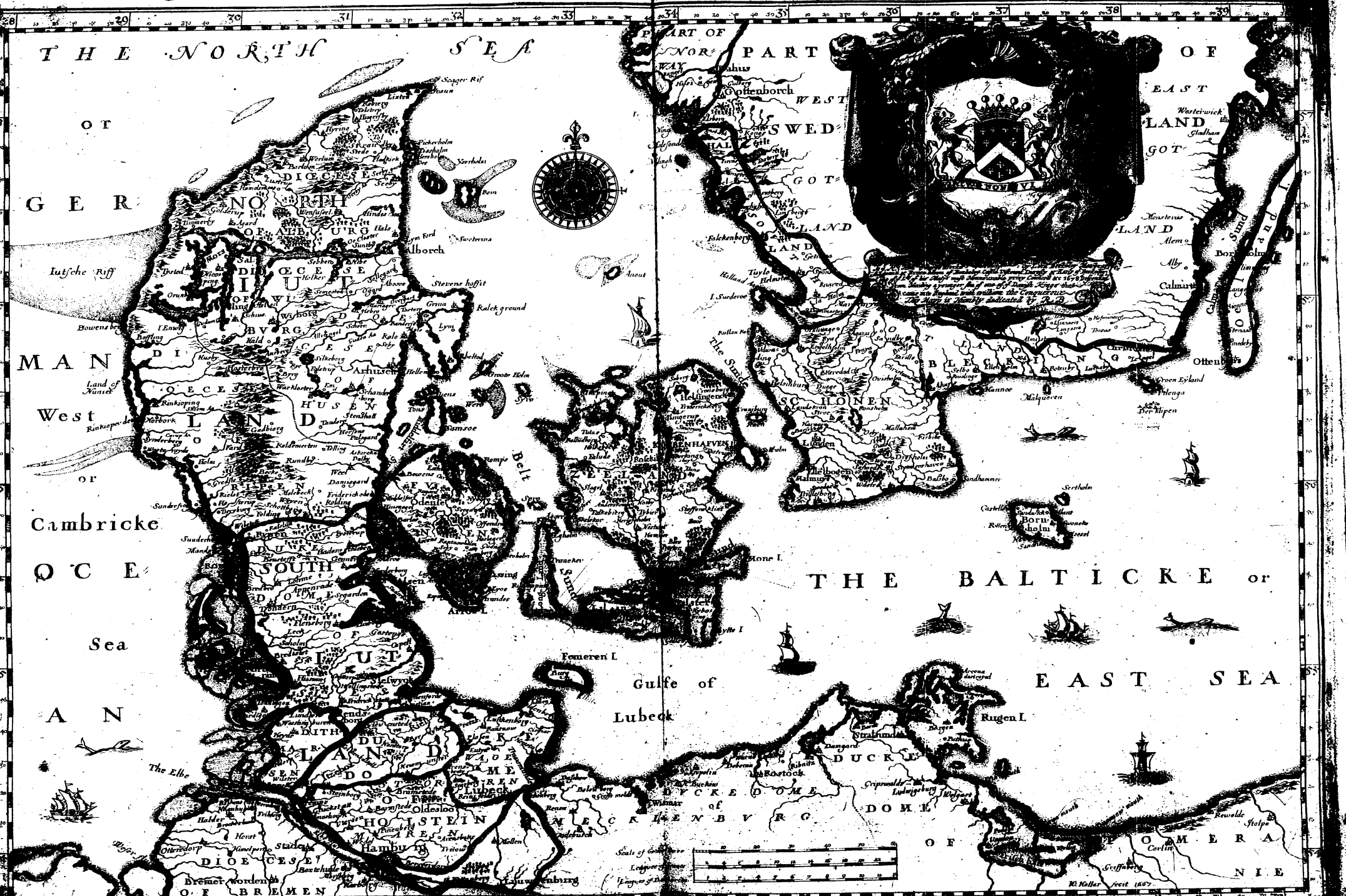
It is bounded on the North and West by the *Northern Ocean*, and on the South and East by the *Baltick Sea*; a continual Chain of Mountains dividing it into two almost equal parts, of which one is on the *Baltick Sea*, and the other on the *Ocean*; this possessed by the King of *Denmark*, the other by the King of *Sweden*.

DENMARK.

Its Commodities.

THE Estates of *DENMARK* contain two Kingdoms, to wit, *DENMARK* and *NORWAY*. *Denmark* is between the *Ocean* and the *Baltick Sea*, composed of a *Peninsula* contiguous to *Germany*, and of a Coast contiguous to *Sweden*; and of divers *Isles* which are between the *Peninsula* and *Coast*; some likewise in the middle of the *Baltick Sea*, and near *Livonia*. It is scituate partly in the *Northern Temperate Zone*, and partly within the *Artick Circle*, extending from the *55th degree* of *Longitude*, or the middle Parallel of the *10th Clime*, where it joyneth to *Germany* as far as *71 degrees*, where it is bounded by the *Frozen Ocean*, the longest day in the most Southern parts being 17½ hours; but in the most Northern parts they have no Night for almost three Months: whereas on the other side, when the *Sun* is in the other *Tropick*; and most remote from them, they have no Day for the like time. This Country is very cold, and consequently not over fertil, nor affording good *Fruits*. The Commodities that this Kingdom affords are *Fish*, *Hides*, *Tallow*, Furniture for *Shipping*, as *Pitch*, *Tar*, *Cordage*, *Masts*, &c. also *Firr*, *Boards*, *Wainscot*, several sorts of *Armour*, &c.

The



A MAPP OF THE KINGDOME OF DENNMARKE, WITH ITS [illegible] FOR PROVINCES, DESIGNED BY MONSIEUR SANSON

The Inhabitants for the most part are of a good *stature* and *complexion*, very healthful, ingenious, and of a ready wit, very punctual in performing their *Promises*, proud and high conceited of their own worth, lovers of Learning, as may appear by those Famous men it hath bred, *viz. Tycho Brahe*, the great Mathematician; *John Cluverus*, the renowned Philosopher and Physitian; *Godfrey Gottricus*, that stout Warriour, who not only setled the Government of this Kingdom, but also shook the Realm of *France*; likewise *Waldemare*, *Christiern* the Second and Fourth; *Canutus* and *Sueno*, which two last were the Conquerors of *England*. They are great punishers of Offenders, especially *Theft* and *Piracy*; their *Women* are of a comly grace, very fair, and as fruitful in Children; discreet and sober. Its Inhabitants.

The *Peninsula* called *JUITLAND*, once *Cimbrica Chersonesus*, from the *Cimbrians* its ancient Inhabitants: It is divided into North and South *Juitland*. *Juitland.*

North JUITLAND is severed into the Bishopricks of *Ripen*, *Arthusen*, *Albourg*, and *Wibourg*.

RIPEN contains 30 *Prefectures* or *Herets*, (as they term them) 7 *Cities* or *walled Towns*, and 10 *Castles*. Its chief places are 1. *Ripen*, seated near the *German Ocean*, the chief place of the *Diocess*, and dignified with an *Episcopal See*: 2. *Kolding*, seated on a Creek of the *Baltick Sea*; 3. *Weel*, 4. *Warde*, &c. Diocess of *Ripen.*

ARTHUSEN containeth 31 *Prefectures*, 7 *Cities* or *walled Towns*, and 5 *Castles*. Its chief places are 1. *Arthusen*, seated on the *Baltick Sea*, having a commodious and well frequented *Port*, and dignified with an *Episcopal See*. 2. *Kalla*, a strong place, seated in a large Bay, reaching two *Dutch* miles to the high Hill of *Elemanberg*; opposite to which lie the Isles of *Hilgones*, *Tuen*, *Samsoe*, *Hiarneo*, and *Hiolm*, &c. 3. *Horsens*, 4. *Randersen*, 5. *Ebelto*, and 6. *Hobro*. Diocess of *Arthusen.*

ALBOURG, which is divided into four parts, *viz. Thyland*, whose chief Town is *Albourg*, seated on the Bay of *Limford*, which, opening into the *Baltick Sea*, extendeth it self through the main Land, almost to the *German Ocean*. 2. *Hunehert*, on the North-west of *Limford* Bay, containeth 4 *Prefectures*, and hath for its chief place *Thystad*. 3. *Morsee*, lying on the *Ocean*, contains 3 *Prefectures*, the Isle of *Ageroe*, the Town of *Nicopin*, and the Castle of *Lunstead*: and 4. *Vensyssel*, according to *Mercator*, *Vandalorum sedes*, or the Seat of the *Vandals*, contains 6 *Prefectures*, 3 *Towns*, and 1 *Castle*, viz. *Selby*, *Cagen*, and *Hirring*. Diocess of *Albourg.*

WIBOURG contains 16 *Prefectures*, the Isles of *Egholm*, *Hansholm*, *Bodum*, *Idgen*, *Cisland*, and *Ostholm*; also it hath 3 *Castles*, and as many *Cities* or *walled Towns*; *viz.* 1. *Wibourg*, dignified with an *Episcopal See*, and the *Courts* of *Judicature* for both the *Juitlands*. The point of *Scagen*, or *Scean*, ends this *Peninsula* towards the North. 2. *Lemwick*, and 3. *Holcker*. Diocess of *Wibourg.*

South JUITLAND is divided into the Dukedoms of *Sleswick* and *Holstein*.

SLESWICK, a Country for the most part level, enriched with fertil Fields both for *Corn* and *Pasturage*; it is very well provided with good Bays on the *Baltick*, which are found commodious for Merchants. The chief places in this Dukedom are, 1. *Sleswick*, seated on the *Slea*, which falls into the *Baltick*, where it hath a commodious and well frequented Haven; it is a fair Town, the chief of the Dukedom, and honoured with an *Episcopal See*. 2. *Hussen*, seated on the *German Ocean*: 3. *Sternberg*, the ordinary residence of the Governour for the King of *Denmark*; 4. *Haderslehen*, seated on a navigable In-let of the *Baltick*, and fortified with a strong and fair *Castle*: 5. *Flensborg*, seated on the *Baltick* amongst high Mountains, having a Port so commodious and deep, that Ships do lade and unlade close to their Houses: and 6. *Gottrop*, where there is a strong Fort belonging to the Duke of *Sleswick*, seated at the end of a large Bay of the *Baltick*, of note for the *Custom-house* or *Tole-booth* there, erected for Cattle, sent out of these parts into *Germany*. *Sleswick.*

HOL-

Dukedom of *Holstein.*

HOLSTEIN, or *HOLSATIA*, a woody, low and Marshy Country; is severed into the Parts of *Holsatia* especially so called, *Wagrie*, *Stormarch*, and *Dilmarch*.

HOLSTEIN, or *HOLSATIA*, hath for its chief places 1. *Kiel*, seated on a navigable Arm of the *Baltick*, where it hath a large Haven, being a Town of a good Trade. 2. *Rendesborg*, said to be the strongest Town in all the Province; 3. *Wilsted*, and 4. *Nienmunster*.

WAGRIE hath for its chief places, 1. *Lubeck*, an Imperial and free City, enjoying the priviledges of a *Hans-Town*; it is pleasantly seated on the confluence of the *Billew*, and on the North-banks of the *Trane*, severing it from *Germany*, and empty themselves into the *Baltick*, being capable to receive *Ships* of a great burthen, which they lade and unlade at *Tremuren*, the Maritim Port, at about a miles distance; it is built on all sides upon a rising Hill, on the Summit whereof is placed a fair and beautiful Church called St. *Maries*, being the Cathedral, from whence, on an easie descent, there are Streets which lead to all the Gates of the City, which afford a fair prospect to the Eye; besides which, it is adorned with 9 other *Churches*, one of which being a decayed Monastery, is converted to an *Armory* to keep their Ammunition for War. It is about 6 miles in compass, encircling within its *Walls* divers fair and uniform Streets, beautified with good *Brick-buildings*, is very populous, and well inhabited by *Citizens* and *Merchants*, who drive a considerable Trade on the *Baltick Seas*. But this City, as also *Hamburgh*, is esteemed rather part of *Lower Saxony* in *Germany*, where I have also treated of them. 2. *Segeberg*, 3. *Odesloe*, 4. *Niestad*, and 5. *Oldenborg*.

STORMARCH hath for its chief places, 1. *Hambourg*, an ancient City built by the *Saxons*, since made an *Imperial City*, enjoying the Privilédges of a *Hans-Town*, seated on the North-banks of the *Albis*, which divides it from *Germany*, of which it is reckoned a part or member, and there treated of in the description of the Lower *Saxony*, to which I refer the Reader. 2. *Krempe*, seated on a River of the same name, which emptieth it self into the *Store*; a strong and well fortified Town, being reckoned for one of the Keys of the Kingdom. 3. *Bredenberg*, a Town of great strength, belonging to the *Rantzoves*: 4. *Gluckstade*, seated on a Bay or Creek of the *German Ocean*, and therefore well fortified, to command the passage up the *Elbe*: and 5. *Tychenberg*, seated on the *Elbe*, being so well fortified, that it is now held the strongest Town in this Kingdom.

DILMARCH or *DITMARCH*, hath for its chief places, 1. *Meldrop*, seated on the Sea; a place of some account, and the chief of the Province. 2. *Heide*, and 3. *Lunden*, a Haven Town, seated on the *Eider*, which rising in this *Peninsula*, here emptieth it self into the *Ocean*.

The BALTICK ISLES.

THese *Islands* which are between *Juitland* and the Coast, and farther in the *Baltick Sea*, are in number 35, and are so called, as being dispersed in these Seas. The *Baltick Sea* begins at the narrow passage called the *Sound*, and interlacing the Countries of *Denmark*, *Poland*, *Germany*, and *Sweden*, extendeth to *Livonia* and *Lithuania*. The reason (according to the Opinion of many) why this Sea, which is so large, doth neither ebb nor flow, may be as well from its Northern scituation, whereby the *Celestial* influences have the less predominancy, as also from the narrowness of the Streight, which receiveth the Ocean. The chief of these *Isles* I have set down in the *Geographical Table* of this Kingdom, of which a word or two, and first with *Zeland*.

ZELAND,

ZELAND, anciently *Codanonia*, from the *Codani* its Inhabitants; the Isle is very fertil, the greatest and of most importance of any in the *Baltick*, to the King of *Denmark*, as lying not above three miles from the main Land of *Scandia*, which narrow Streight is called the *Sound*, through which all Ships must pass that have any Trade into the *Baltick*, all paying to the said King a certain Toll, according to the bigness or Bills of Lading, by which ariseth a great Revenue unto him; and for the security of this passage there are built two exceeding strong *Castles*, the one in this Isle, called *Cronenberg*, and the other in *Scandia*, called *Hilsemberg*, of which more anon. In this Isle are 7 strong *Castles*, and 13 *Cities* or *walled Towns*; the chief of which are 1. *Copenhagen*; or *Haffen*, the chief of the Isle, seated near the Sea, having a commodious Port; it is built orbicular, of a good strength, being defended by a powerful *Castle*; its Houses are but meanly built, yet it hath a spacious *Market-place*, and is dignified with the residence of the King for the Winter season; whose *Palace* is built of *Freestone* quadrangular, but of no great splendor, as also with the only *University* in the Kingdom. 2. *Elsenour*, seated on the Sea side; of it self but a poor *Village*, were it not for the great resort of Sea-men in their passage through the *Sound* into the *Baltick*, this being the place where they pay their Toll; and in this *Village* is the stately and well fortified Castle of *Cronenburg*, built in the very Ocean, and bravely resisting the fury of its Waves; now the ordinary residence of the King, being a pleasant prospect into the Sea; on the South-side of this *Castle* is a large and commodious Road for Shipping. 3. *Roschilt*, once a rich City, now only famous for being the Sepulchre of the *Danish* Kings, where, in the *Cathedral* Church, they have their *Tombs*; it is also dignified with the See of a Bishop. 4. *Fredericksbourg*, a Fortress built in a pleasant Plain, often visited by the King in his retirement, where he hath a delightful House seated in a Park. 5. *Warborg*, 6. *Ringstede*, 7. *Holbeck*, 8. *Slages*, &c. *Zeland.*

FUINEN, or *FIONIE*, seated betwixt *Zeland* and *Juitland*, and almost joyning to the Main-land; it is of a fertil Soil, and pleasant scituation, being in length about 12 *Dutch* miles, and 4 in breadth. Its chief places are 1. *Osel*, or *Ottonium*, so called from *Otho* the Great, who founded here an *Episcopal See*, seated in the midst of the Isle, from which the other Towns are of an equal distance, which renders it very commodious for Traffick; it is not large, having but two *Churches*, and its Buildings are neat and ornamental enough. 2. *Niborg*, 3. *Swinborg*, 4. *Kartemunde*, 5. *Woborg*, and 6. *Ascens*; all, or most of them seated on some convenient *Creek* or *Haven*. *Fuinen.*

FIMERA, a very fertil and well peopled Isle; and here it was that *Tycho Brache*, the famous Mathematician, built an Artificial *Tower*, in which are (or were) many rare *Mathematical Instruments*; its chief place is *Petersborne*, of some importance to the King of *Denmark*. *Fimera.*

ALSEN, a small Isle appertaining to the Dukedom of *Sleswick*; is very populous, contains 13 *Parishes*, and 4 *Towns*, viz. *Osterholme*, *Gammelgard*, *Norbarch*, and *Sunderburg*; dignified with the residence of the Duke of *Sleswick*. *Alsen.*

TUSINGE, a very small Isle, and of no great account by reason of its dangerous scituation; its chief place is *Niburg*. *Tusinge.*

ARROE, a small Isle belonging to the Duke of *Sleswick*; it contains three Towns, the chief of which is *Koping*, fortified with a Castle so called. *Arroe.*

LONGLAND, an indifferent long Isle, but not very broad; its chief place is *Rudkoping*, of some account. *Longland.*

LALAND, not far distant from *Zeland*, abounds in *Corn* and *Chesnuts*, fraighting therewith many Vessels yearly; it is very populous for the bigness, contains 3 Towns, *viz. Maxcow*, *Rodby*, and *Maribo*; besides a great many *Villages* and some *Castles*. *Laland.*

FALSTER, a small Isle, fertil in *Corn*, seated near to *Laland*; its chief places are *Nikoping*, of a pleasant scituation; and *Stubekoping*. *Falster.*

In

In the *Baltick*, and between the Lands of *Sweden*, are also several *Isles*; the chief amongst which are *BORNHOLME*, seated not far from *Gothland*, an Isle very fertil, feeding abundance of Cattle: It hath many good Towns and Villages, the chief of which are, *Nex*, *Rottonby*, and *Suomneckier*.

Bornholm.

Gothland.

GOTHLAND, an indifferent large Isle, in form round and narrow, now in the possession of the *Swedes*: It yields *white Marble*, excellent for building; the City of *Wisby*, seated in the midst of the Isle, was once so famous for Traffick, that it gave Maritim Laws to the *Baltick Sea*.

That which the King of *Denmark* possesses, as particularly belonging to that Crown, on the Coast of *Scandinavia*, is part of the ancient *Gothland*; the most Southern of which that we are now treating of, is divided into *Westro-Gothland* and *Ostro-Gothland*; which are again subdivided into the Province of *Hallandia*, which takes up *Westro-Gothland*; and into the Provinces of *Scania* and *Blecking*, which takes up *Ostro Gothland*; and first of *Hallandia*.

Hallandia.

HALLANDIA, now in the possession of the *Swedes*; this Country or Province for fertility of Soil, sweetness of Air, store of *Fish*, plenty of *Lead* and *Brass Mines*, and thickness of *Towns* and *Villages*, which are well inhabited, is not inferiour to any. Its chief places are 1. *Warborg*, seated on the Sea-shoar, and defended by a strong Castle, built on the summit of a Hill, so that it hath a great command over the Country. 2. *Laholm*, 3. *Helmstad*, 4. *Falkenborg*, and 5. *Hallandia*, or *Katterop*.

Scania.

SCANIA, or *SCONEN*, hath on the North *Hallandia*, and on all other parts, the Sea; also now in the *Swedes* possession: It is about 70 miles long, and 48 broad; the pleasantest Country in all *Denmark*, most abundant in *Fruits*, and richest in *Merchandize*, and on the Sea-side are sometimes such great sholes of *Herrings*, that they are found troublesom to Vessels. Its chief places are 2. *Lunden*, an Inland City, dignified with the sole or Metropolitan Archbishop of *Denmark*; the chiefest beauty in this City is the *Cathedral Church*, a magnificent Structure, beautified with excellent pieces of Art, the chief whereof are the *Clock* and the *Dial*: the *Clock* being so composed by Artificial *Engines*, that whensoever it striketh, two Horsemen give one another as many blows as the Clock striketh times: also upon the opening of a Door there is represented a Theatre, where the *Virgin Mary* is seated on a Throne with *Christ* in her Arms, to whom the three *Kings*, with their several Trains, come in order, and with reverence present their Gifts to her, during which time two *Trumpeters* continually sound. And next the *Dial*, where the *year*, *month*, *week*, *day*, and *hour* of the day throughout the year, as also the motions of the *Sun* and *Moon* through each degree of the *Zodiack*; the moveable and fixed *Feasts*, &c. are to be distinctly seen, being neatly set forth in variety of delightful Colours. 2. *Helsinborg*, fortified with an impregnable Castle, and one of the Forts defending the *Sound*: 3. *Christiana*, a place of great strength; and 4. *Malbogen*, a Port-Town, opposite to *Copenhagen*.

Blecklinge.

BLECKLINGE, also belonging to the *Swedes*, hath on the East and South the *Baltick Sea*: It is a Mountainous and barren Country, and hath for its chief places 1. *Malinogia*, the Birth-place of the famous Mathematician *Gaspar Bartholinus*, who was said to be the inventer and maker of the aforesaid Clock and Dial. 2. *Colmar*, an important Fortress against the *Swedes*, until they gained the Province.

The Soil of *Denmark* is naturally better for *Pasture* than *Tillage*, and feeds such multitude of *Oxen*, that at least 50000 are said to be yearly sent hence to *Germany*. Their other Commodities are *Fish*, *Tallow*, *Furniture* for Shipping, *Armour*, *Ox-hides*, *Buck-skins*, *Wainscot*, *Fir-wood*, *Furrs*, *Pipe-staves*, *Copper*, *Wheat*, *Rye*, &c.

NORWAY.

THe Country of *NORWAT* is bounded on the North with *Lippia*, on the East with the *Dofrine* Mountains, which divide it from *Sweden*, and on all other sides with the *Sea*; on which, with a disproportionate breadth, it stretches its Coasts for 1300 miles in length. The Country is extreamly cold, being partly under the *Frozen Zone*, and partly so near it, that it all suffers under the inclemency of bitter Colds. It is for the most part Mountainous, full of vast *Woods*, and of a Soil so barren and ungrateful to the Husbandman, affording so little *Corn*, that on many places the people live on dried *Fish* instead of *Bread*, (known to us by the name of *Stock-fish*;) but the richer sort of people buy *Corn* of such Merchants as come to Trade with them. The principal Commodities that this Country affordeth, is great plenty of *Firrs*, *Deal-boards*, *Timber*, *Tar*, *Masts*, and Furniture for *Shipping*, also *Stock-fish*, *Train-oyle*, rich *Furrs*, *Copper*, *Pipe-staves*, &c. which the Inhabitants exchange for *Corn*, *Cloths*, *Kersies*, *Lead*, *Tinn*, *Stockings*, &c.

Its scituation, temperature, fertility, Commodities, &c.

The Country is exceedingly annoyed with certain small Beasts about the bigness of a *Mouse*, by them called *Lemmers*, which at a certain time are so innumerable, that like *Locusts* they devour all the verdure of the Earth, and at a certain time die in heaps, which proves very noisom to the people, infecting the Air; and the Sea is as bad troubled with *Whales*. The Inhabitants are said to be just Dealers, punishers of *Theft*, and other Vices, and were accounted formerly great Warriors.

This Kingdom is divided into five Governments, which take their names from the places where the Governours reside; in all which the *Towns* are exceeding thin, and the *Houses* as poor. The five Parts are as followeth.

Norway divided into five Governments, *viz.*

Bahus.

BAHUS, belonging to the *Swedes*, is the most Southward; the chief places are *Bahus*, the residence of the Governour, to which are subject the Towns of *Cougel*, seated on the Sea, and of some Trade; and *Marstrand*, seated in a *Demi-Island*, of note for the great quantity of *Herrings* here caught.

Aggerhus.

AGGERHUS, mounting towards the North, whose chief place or Castle is so called, to which these Towns following are subject, 1. *Opslow*, or *Asloja*, dignified with an *Episcopal See*, as also with the Courts of Judicature. 2. *Schon*, of good account for its *Copper* and *Iron-Mines*. and 3. *Frederickstad*.

Bergenhus.

BERGENHUS, or *BERGEN*, whose chief place is so called, dignified with an *Episcopal See*, and the residence of the Governour, once a famous City of Trade, and one of the ancient Mart-Towns of *Europe*; yet still, by reason of its scituation at the bottom of a deep Arm of the Ocean, called (by them) *Carmesunt*, where it hath a commodious Port; is well frequented by Merchants, who bring them *Corn*, *Bread*, *Wine*, *Beer*, *Aqua-vitæ*, and the like Commodities, to supply their wants; and in exchange take *Stock-fish*, *Furs*, *Deals*, *Firrs*, *Cordage*, *Pitch*, *Masts*, &c.

Trontheinhus.

TRONTHEINHUS, or *TRONDENHUS*, whose chief place and *Castle*, where the Governour resideth is so called; it is dignified with the Metropolitan *Archbishoprick* of all *Norway*, once a fair City, as being the Seat of their Kings, till the *Danes* became Masters of this Country, who have reduced this City to a small Town.

Wardhus.

WARDHUS, seated beyond *Cape Nort*, which is the most Northern point of *Europe*. Its chief place and Castle, where the Governour resideth, except during the absence of the *Sun*, which is for about three Months in the year, is so called. This Town is serviceable to the King, because it was the *Lappians*, their Neighbours, as also commandeth the Natives; and profitable, because all the *Ships* going to *Moscovy*, must of necessity touch here.

To the *Norwegian* King do belong divers *Lands* and *Isles* in the Northern Sea,, and in *America Artick*; the chief of which are *Groenland*, *Izland*, *Farre*, &c. which I shall treat of in the Description of *America*.

SWEDEN.

THe Estates of the *Swede* are all on the *Baltick Sea*, and take up all those Regions which are on the West, East, and North of this Sea, and is Southwards of *Poland*, *Germany*, and *Denmark*.

The Bounds of *Sweden*, with its parts.

The Estates of the *Swede* are bounded on the West and North by the Estates of *Denmark*, on the East by those of *Moscovy*, and on the South by the *Black Sea*, *Poland*, and *Denmark*; they comprehend six principal Regions, *viz. Sweden*, *Lapland*, *Gothland*, *Finland*, *Ingra*, and *Livonie*.

Sweden.

SWEDEN, particularly so called, is divided into the parts of *Sueonie* and *Norland*, in both which are several *Provinces*, which are taken notice of in the *Geographical Table* of *Sweden*: It is bounded on the East with *Sinus Bodicus*, on the West the *Dofrine Hills*, and on the South *Gothland*. The Country is very fruitful and delicious, unless in some places, occasioned by the craggines of the Mountains, the great *Marishes* yet undrain'd, and the vast *Woods* yet standing. The places of most note in this part are 1. *Stockholm*, seated in a watry *Marish*, in part upon the Lake *Meller*, and in part on the East Sea, out of which the great Trade for *Shipping* to this City doth come, its Port being capacious and safe; which is defended by two powerful *Forts*, as also the City by an impregnable *Castle*, well furnished with Ammunition. This City being the residence of the King, as the *Metropolitan City*, (whose *Palace* is more renowned for its Antiquity than Magnificence) makes it to be a place of a considerable Trade, and well frequented. 2. *Upsal*, seated not far from the Bay of *Bodner*, dignified with a See of an *Archbishop*, as also with an *University*, and beautified with a *Cathedral Church*, no less large than fair, formerly the Burial place of the *Swedish* Kings. 3. *Nikoping*, a Maritim Town, of good strength. 4. *Copordel*, famous for its abundance of *Brass*. 5. *Westeras*, or *Arosia*, of note for its rich Mines of *Silver*, which are exceeding profitable to the King. 6. *Hudwickswalde*, seated on the Sea or Gulph of *Botnie*. 7. *Orebrog*, 8. *Gevala*, 9. *Indal*, 10. *Hernosand*, and 11. *Torne*.

Lapland.

LAPLAND is the most Northern part of *Scandinavia*; the People are barbarous, rude, void of *Arts* or *Letters*, great *Idolaters*, *Sorcerers*, and *Witches*, for which the place is famous, or rather infamous: of stature they are low, but strong and active, expert in the Bow, with which they kill their *wild Beasts* in hunting, eating the Flesh, and clothing themselves with the Skins, which they tie about them to preserve them from the pinching Cold.

Lapland is divided into five parts, *viz. Vina-Lapmarck*, *Pita-Lapmarck*, *Luna-Lapmark*, *Torne-Lapmarck*, and *Kimi-Lapmarck*; and these parts are but thinly beset with Towns, contenting themselves with *Sheds* and *Cabins*, which they remove from place to place as occasion serveth. Its chief places I have set down in the *Geographical Table* of *Sweden*.

Gothland.

GOTHLAND is divided into *Ostro-Gothland* and *Westro-Gothland*, that is, the Land of the Eastern and Western *Goths*; and these two parts are subdivided into several Provinces, *viz. Ostro-Gothland*, *Smalandie*, and *Oelald*, in the first part; and *Westro-Gothland*, *Dalie*, and *Vermeland* in the other part. This is the richest and best Province of the North, and very fertil in *Corn* and *Cattle*; in it is the famous Lake *Wenir*, or *Werett*, which receiving 24 Rivers, disburthens it self at one Mouth, and with such noise and fury, that it beareth the name of the *Devils-head*. The places of most note in *Ostro-Gothland* are

are 1. *Wadstein*, seated on a Lake; 2. *Calmar*, on the confines of *Denmark*, seated on the *Baltick Sea*, a large City, enjoying a good Trade, having a commodious Port, defended by a strong and beautiful Castle. 3. *Linkoping*, and 4. *Vexio*, both *Episcopal Sees*. 5. *Westerwick*, commodiously seated on the *Baltick Sea*. In *Westro-Gothland* are the places of 1. *Gotheburg*, or *Leduisia*, a Town of great Trade by reason of its fair and commodious Haven. 2. *Scara*, an Episcopal See; 3. *Daleburg*, a fair Town, well fortified with a strong Castle; and 4. *Carolstad*.

Finland.

FINLAND hath on the East *Sinus Finicus*, on the South the *Baltick Sea*, on the West *Sinus Bodicus*, and on the North, *Bodinus*. The Inhabitants (according to *Tacitus*) are very barbarous and poor, being destitute of *Arms* (except *Bow* and *Arrows*) *Horse*, and *Houshold-goods*; contenting themselves with *Herbs* for their food, the Skins of *Beasts* for their clothing, and the *Ground* for their Bed; yet it is said to be very populous in Towns and Families; the chief amongst which are 1. *Abo*, seated at the bottom of the Bay of *Finland*, which separates this Province from *Livonia*, dignified with the See of a Bishop. 2. *Brenborg*, 3. *Raumo*, 4. *Hadhendal*, and 5. *Castlebolm*, in the Isle of *Aland*.

United Provinces to *Finland*.

Provinces united to *Finland*, are 1. *CAJANIE*, whose chief places are *Ula*, *Wassa*, and *Cajaneborg*. 2. *SAVOLAX*, whose chief place is *Nislot*. 3. *TAVASTE*, which hath for its chief place *Tavasthus*. 4. *NYLAND*, whose chief places are *Borgo*, a place of great strength, near to which (within the confines of *Moscovy*) are the two strong Frontier Towns of *Viburg* and *Rivallia*, the keeping of which stands the King of *Sweden* in 100000 Dollars yearly. 5. *CARELIE* hath for its chief place *Wiburg*: and 6. *KEXHOLME*, whose principal place bears the same name.

Other Lands adjacent to *Finland*, are *Bodia* and *Scrickfinnia*.

Lands adjacent to *Finland*.

BODIA hath on the South *Finland*, a Country not over fertil in *Grain* or *Fruits*; but in recompence hath great variety of *wild Beasts*, which affords great store of rich *Furrs*. Its chief places are *Virtis*, *Vista*, and *Helsinga*, honoured with the Title of a Dukedom.

SCRICKFINNIA hath on the South *Bodia*, and thence stretcheth it self between *Lapland* and the *Frozen Ocean*; a Country miserably cold; they have no use of *Mony*, but pay their Tribute to the King of *Sweden* in *Skins* and *Furrs*, of which they have great plenty, which they take in hunting. *Towns* here are very thin, if any, and those that are be on the Sea-shoar, and very poor, the Natives contenting themselves with *Cabbins* and *Sheds*.

Province of *Ingria*.

INGRIA, a small Province bordering upon *Livonia*, at the bottom of the Gulph of *Finland*, not many years taken from the *Knez*, or great Dukes of *Mosco*, by the Kings of *Sweden*; who have likewise robbed *Germany* of the best part of *Pomerania*, and *Denmark* of the Provinces of *Schoven*, *Scania*, *Hallandia*, *Blekingea*, *Bahus*, *Gothland*, *Oeslia*, *Heroedalia*, and *Jemptia*.

LIVONIA, bounded on the East with *Moscovy*, and on the West with the *Baltick Sea*; a Country extreamly Mountainous and Fenny, but yet so fertil, that it supplies with *Corn* the defects of other Countries. It is severed into the parts of *ESTEN* and *LETTEN*, and these again into several other lesser parts, which are set down in the *Geographical Table*. Its chief places are *Felin*, *Pernajo*, *Revel*, *Wiesenburg*, *Nerva*, *Wittenstein*, and *Derpt*, a Town of good Trade. In the part of *LETTEN*, towards the West, are *Riga*, the See of an *Archbishoprick*, and is a place of a good Trade; *Segenwold*, *Wenden*, and *Wilmer*. Towards the South are the Towns of *Koekenhaus* and *Creutzburg*; and towards the East the Town of *Marienburg*: All these Towns in the part of *Letten* are subject to the Crown of *Poland*.

Lakes and Rivers.

In *Scandinavia*, or the Estates of *Denmark* and *Sweden*, are many *Rivers*, amongst which, some are large, but not famous: The *Lakes* and *Gulphs*, which are in great number, obscure the *Rivers*, and make the commerce only on the Coast. The Rivers of *Uma*, *Pitha*, *Lula*, *Torne*, and *Kimi*, give their names to the Marshes of *Laponia*, subject to the King of *Sweden*.

Mountains. The principal Mountains in *Scandinavia* are the *Dofrine Hills*, which is a vaſt and continual ridge of Mountains, which divide *Sweden* from *Denmark*.

The Soil. The Soil of *Sweden* is ſo fruitful in many places, that it is a hard matter to ſee a *Beggar*, and the *Air* ſo pure and healthful, that it is ordinary to ſee men

Commodities. of 130 or 140 years of Age. The Country abounds in Mines of *Copper*, *Lead*, *Braſs*, and *Iron*; alſo hath ſtore of *Ox-hides*, *Goats* and *Buck-skins*, *Tallow*, *Tarrs*, rich *Furrs*, *Alom*, *Hony*, *Malt*, *Barly*, *Wheat*, *Firrs*, &c.

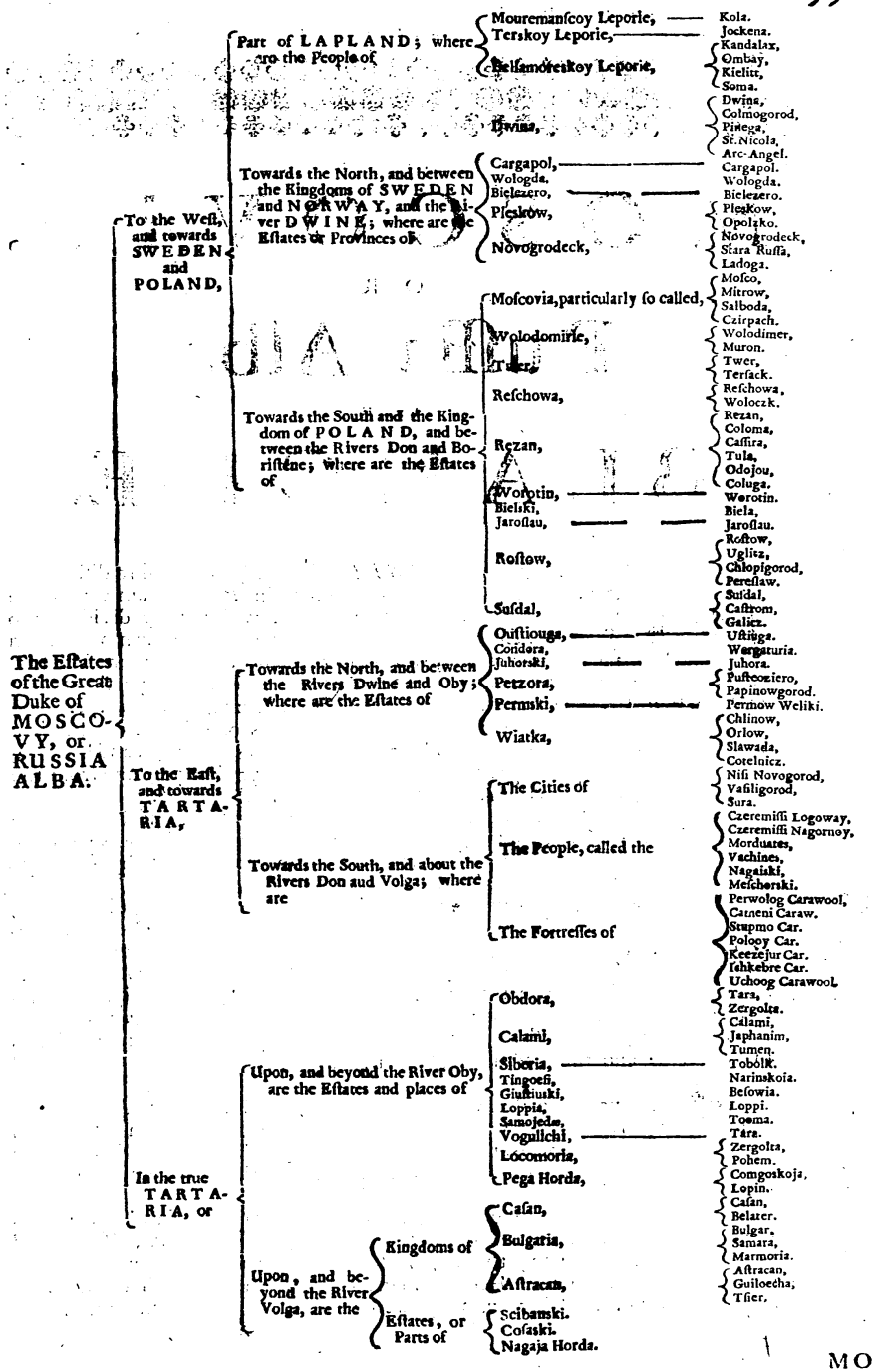
Its People. The People are naturally ſtrong, active, ſtout Souldiers, induſtrious, laborious and ingenious, eſpecially in *Mechanical Arts*, very courteous to Strangers, &c. The *Women* are ſaid to be diſcreet and modeſt. The Chriſtian Faith was firſt planted amongſt them by *Anſgarius*, Archbiſhop of *Breme*, the general Apoſtle of the North.

Revenue of the King. The Revenue of the Crown of *Swedeland* muſt needs be great, there being three ways allowed him for the receiving it, *viz.* the Tenths out of all increaſe of Commodities, as well thoſe of the growth as otherwiſe. Alſo by *Cuſtoms* upon all Goods exported and imported; and alſo the Revenue of the *Church*, which was ſeized on and incorporated to the Crown by *Guſtavus Ericus*, out of which there is yet an allowance to the *Biſhops* and *Clergy*. And beſides theſe ways, he hath power of impoſing *Taxes* in time of War, according to the emergency of the occaſion.

In his Forces by *Land* or *Sea* he is very powerful, being able to put out to Sea about 100 Sail of *Ships*, and into the Field about 30 or 40000 Foot and Horſe.

As to the deciding of Controverſies, &c. every Territory hath its *Viſcount*, every Province its *Lamen*, and every Pariſh its *Lanaſnan* or *Conſul*; and there lieth an Appeal from the *Conſul* to the *Viſcount*, and from the *Viſcount* to the *Lamen*; from whom alſo Appeals lie to the *Council*, and from the *Council* of Eſtate to the *King*, who alone decideth the ſame.

The



MOS-

MOSCOVIA,
OR
Russia Alba,
OR
BLANCHE.

MOSCOVY, or *RUSSIA ALBA*, (so called to distinguish it from *Russia Nigra*, a Province in *Poland*) answers to the whole *Sarmatia* of the Ancients, which they divided into *Sarmatia Europæana* and *Sarmatia Asiatica*; the most Eastern part of *Moscovy* answering to this last, and the more Western to the former; and this distinction hath made some to esteem it partly in *Asia*, and partly in *Europe*; but it is by the generality esteemed all in *Europe*.

Its extent, bounds, &c.

The whole Estate of the great Duke of *Moscovy* is of a larger extent than any other in *Europe*, stretching it self 5 or 600 Leagues in length and breadth, reaching from the 48*th degree* of *Latitude* unto the 70*th* or 72; and from the 50*th* of *Longitude* unto the 100*th*, and sometimes to the 110*th*.

Moscovy hath its Estates bounded on the East by *Tartary*, and beyond the Rivers *Volga* and *Oby*; on the South, by the *Caspian* or *Euxine* Seas; on the North, by the *Septentrional* or *frozen Ocean*; and on the West, by *Norway*, the Estates of *Sweden* and *Poland*.

Its Commodities.

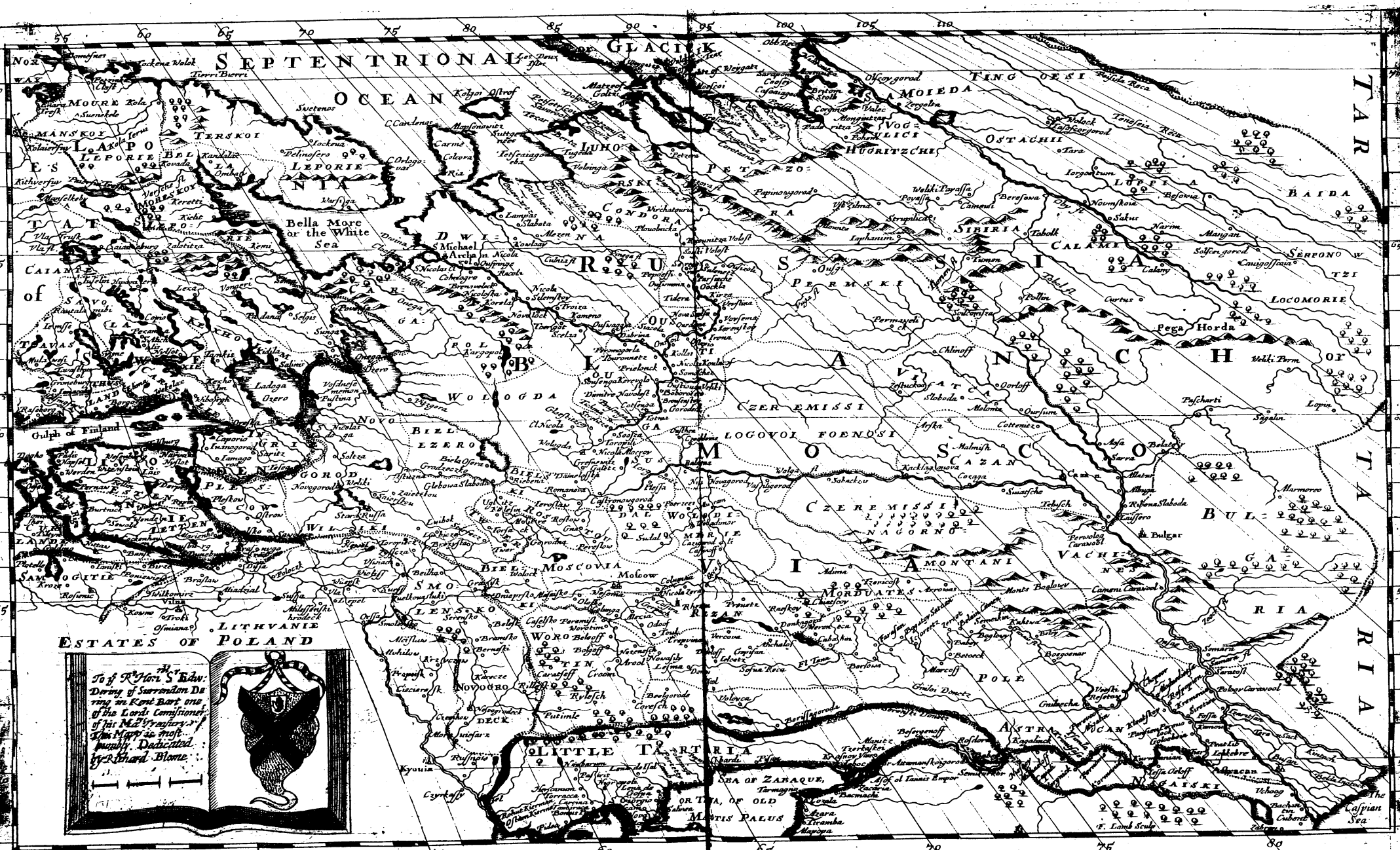
The Commodities that this Empire yieldeth are, rich *Furrs* of divers sorts, *Pot-ashes*, *Hemp*, *Flax*, *Honey*, *Wax*, *Cables*, *Yarn*, and other Cordage, *Feathers*, *Linnen Cloth* both course and fine, *Train-oyle*, *Rozin*, *Pitch*, *Caviare*, *Tallow*, *Iron*, *Salt*, *Sea-horse Teeth*, *Astracan-hides*, *Tann'd-hides*, *Raw-hides*, *dried-Fish*, great increase of *Grains*, with many other good Commodities; here are great store of *Cattle*, *Elkes*, *Stags*, *Bears*, *Wolves*, *Venison*, *Tigres*, *Lunxes*, *Hares*, &c. great plenty of *Fowl* and *Fish*, common with us in *England*; and the Earth affordeth them plenty of *Fruits*, *Roots*, and *Herbs*,

The Air is exceeding sharp and piercing in the Winter, and subject to excessive great Frosts; but what with their warm clothing with *Furrs* and their *Stoves* in their Houses, they endure it well enough: and as their Winter is thus cold, their Summer is as hot and troublesome, the *Sun* being as it were above their Horizon.

Its Lakes, Forests, &c.

The Country hath every where many *Lakes*, and those of as large an extent as any in *Europe*, as those of *Lodaga*, *Onega*, *Biela*, *Osera*, *Ilmen*, and others towards the North; those of *Resanskoi-osera*, of *Iwanow-osera*, and others towards the South. Here are many *Forests*, among which the most renowned is that of *Epiphanow*, very well clothed with *Wood* and stored with

wild



A MAPP OF THE ESTATES, OF THE GREAT DUKE OF RUSSIA BLANCH OR MOSCOVIA. Designed by Mounr Sanson. Geographer to the French King.

wild Beasts and *Fowl*. *Mountains* here are but few, except those of *Roglowi*, between the Rivers *Tana* and *Volga*; and those of *Camenopoij* or *Stolp*, that is, the *Pillars* of the World, which are between the *Dwine* and the *Oby*.

This Country (according to some) is called the *Mother* of *Rivers*, amongst which the *Volga*, the *Don* or *Tana*, and the *Dovine* or *Dwine*, are the most famous; and especially the *Volga*, which is the greatest and noblest in all *Europe*, both for its course and the force of its Water, running 7 or 800 Leagues, and receives abundance of other Rivers. Rivers.

Moscovy for the most part is ill Inhabited, and especially towards the North and East; these quarters being cold, full of *Forests*, and some of their People *Idolaters*: that which is towards *Sweden* and *Poland* is more frequented, more civiliz'd, and its *Cities* and *Towns* better built: that which lieth towards the South, and in all likelyhood should be the best, is partly *Mahometan*, and often infected by the *Petit Tartars*. But a word or two of its People about *Mosco*, which by reason of its being the residence of the Great *Duke*, are supposed to be the most civiliz'd and ingenious. *Moscovy* ill Inhabited.

The People are naturally ingenious enough, yet they addict themselves neither to Arts or Sciences, but chiefly to Traffick and Husbandry, in which they are very subtle; they are observed to be great Liars, perfidious, treacherous, distrustful, crafty, revengeful, quarrelsom, proud, much addicted to Women and strong Drink, but *Tobacco* is forbidden amongst them. Their Houses are but mean, and as ill furnished, contenting themselves to lie on *Matts* or *Straw*, instead of *Beds*; they are gross feeders, yet have wherewithal to feed deliciously. Their habit (which they seldom or never change) is much the same with the ancient *Greeks*, wearing long Robes of *Cloth*, *Sattin*, *Silk*, *Cloth of Gold* or *Silver*, which is beset with *Pearls*, according to the quality of the person, by which, together with their attendance, they are known; and under these Robes they wear close *Coats* and *Drawers*, begirting themselves with *Swashes*; on their feet they wear *Buskins*, and on their heads, *Caps* (instead of *Hats*) adorned with *Pearl* and *precious Stones*, which in their Salutations they move not, only bow their bodies. They are for the most part fat and corpulent, esteeming great Bellies, and long and great Beards, for a comliness; the Women, though indifferent handsom, yet make use of Paint. In the performance of their *Nuptial Rites* they use many Ceremonies, which are largely treated of by *Adam Olearius*, in his Book entituled the *Ambassadours* Travels into *Moscovy* and *Persia*, whose description I shall make use of, wherein he saith, That young Men and Maids being debarr'd the Society of each other, Maidens not being allowed the freedom of the Streets, or society with Men; it happens that no Marriages are made but by the consent of the Parents; and the bargain being agreed on by them, the Wedding-day is appointed, the Night before which the young Man makes his never yet seen Bride a Present, according to their Qualities. He saith further, that there are two Women appointed by them, who are to take order for the making the *Nuptial Bed*, &c. which is made upon about 40 heaves of *Rye*, which are encompassed with a great many Barrels of *Wheat* and other Grains. All things being made ready, the *Bridegroom* late in the Evening goes to the *Brides*, accompanied with his Friends and Relations, together with the Priest who is to marry them, riding before them; and being received in, are brought to a Table where three Dishes of Meat are brought, but none eats thereof; then after some Ceremonies, the *Bride* is brought in richly clad in a Nuptial dress for that Solemnity by the said Women, who places her by the *Bridegroom*; and to prevent their being one another, binds the Vail over the *Brides* face, they are parted by a piece of Linnen *Taffety*, which is held by two Youths: which done, the said Woman ties up her Hair in two Knots, paints her, puts a Crown neatly made and gilded on her head, and habits her like a married Woman; the other Woman chosen by them paints the *Bridegroom*, and whilst this is doing, the Women get upon Benches and sing several Songs; then after several ridiculous Ceremonies they go to the Church, and before Its People. Their Habit. Their Ceremonies in Marriage.

the Priest gives them the *Benediction*, he carries them to the Offering, which consists of *fryed Meats*, *Fish*, and *Pastry*: the *Benediction* is given by holding *Images* over their heads, and the Priest taking the *Bridegroom* by the right hand, and the *Bride* by the left, and asks them three times, if they will love one another as Man and Wife ought, and whether it be by their consent; to which both answer, *Yes*: then all the People joyn hands and dance, whilst they and the Priest sing the 128 *Psalm*, which ended, he puts a Garland of *Rue* about their heads, saying, *Increase and multiply*; and then consummating the Marriage, saith, *Whom God hath joyned together, let no man separate*; which being pronounced, several *Wax-Candles* are lighted, and the Priest is presented with a Glass of *Claret*, and being pledg'd by the Married couple, he throws down the Glass, and he and the Bride tread it under their feet, saying, *May they thus fall at our feet, and be trodden to pieces, who shall endeavour to sow discontent betwixt us.* Then after several other Ceremonies, the *Bride* is put in a Sledge and drawn to the *Bridegrooms* house, where the Wedding is kept, and he following her on Horseback; and as soon as they are come, the said Woman conducts the *Bride* to her Chamber, undresses her, and lays her in Bed, during which time the *Bridegroom* and his Friends are seated at a Table well furnished with Meat; the *Bride* being laid in her Bed, the Woman fetches the *Bridegroom* from the Table, who is accompanied with about eight young Men, bearing in their hands lighted *Torches* to conduct him to the Chamber, which being entred, they put them in the said Barrels of Corn, and void the Room, being each of them presented with two *Martins Skins*; the *Bride* perceiving him coming, gets out of the Bed, putting a Gown about her, and receives him very submissively; and this is the first time he hath the sight of her face: then they sit down at Table, and having eaten go to Bed, all quitting the Room; and at the Door is placed one of the Old Servants, who is to demand, if the business is done; and when he saith, it is, the *Timbrels*, *Trumpets*, &c. play, till such time as the Stoves are made ready, where they bath themselves, but apart, and the two next days are spent in *dancing*, *entertainments*, and *diversions*; but for *Citizens* and Persons of a meaner Degree, less Ceremonies are used, and with lesser state and cost. The Wedding being past, the *Bride* betakes her self to a retir'd condition, being not much permitted the liberty of the Streets, nor do their Husbands, especially the Richer sort, care they should be brought to Housewifry, so that they bestow their time in Idleness, and playing with their Maids; and, as some say, they are not well contented unless their Husbands gives them beating, being like *Spaniels*, the more they are beaten the better they love. *Disorderments* are frequent amongst them, for when they have a desire to part, they accuse her of *Adultery*, or want of *Devotion*, by suborning of false Witnesses, by which they are contented, without answering for themselves.

Their Religion.

Their *Religion* is the same with the *Greek Church*, of which they are a Member, but full of Superstition, as considering the *Virgin Mary*, the *Evangelists*, *Apostles*, with abundance of other *Saints*, not only as simple Intercessors, but also Co-operators and Causes of their Salvation, giving to their *Saints* and *Images* the same honour as is due only to God. They differ from the *Romish* and Reformed Churches in several points, as 1. Forbidding extream *Unction*, *Confirmation*, and fourth *Marriages*. 2. Denying the *Holy Ghost* to proceed from the *Father* and the *Son*. 3. Denying *Purgatory*, but allow praying for the Dead. 4. They hold it unlawful to fast on *Saturdays*. 5. They reject graven or carved *Images*, but allow of the painted. 6. They observe four *Lents* every year. 7. Communicating in both kinds, but mixing warm Water with the *Wine*, and using leavened *Bread*, which they distribute both together with a Spoon. 8. They admit Children of seven years of Age to receive the *Sacrament*. 9. They admit of none to Orders, but such as are married, and forbidding the same to those that are in actual Orders. And 10. Believing that Holy men (before the Resurrection) enjoy not the presence of *God*; and for these and the like Tenents, there is a great feud and hatred between them and the *Papists*.

The

The *Moscovites* suffer all Nations to live amongst them in quietness, and give toleration to all Religions, except the *Jews* and *Papists*, whom they will not permit amongst them.

They are great observers of *Festival-days*, of which they have abundance, all which are not observed, except by the *Priests*; but their great *Festival-days* are strictly observed, as also *Sundays*, on which they go thrice a day to their Devotions: Their Service consisteth in reading of *Chapters* and *Psalms*, saying, or rather singing of certain Prayers, St. *Athanasius*'s *Creed*, together with a Homily out of St. *Chrysostom*; they are such great Adorers of the *Cross*, that they will undertake no business, neither eat or drink before they have made the sign of the *Cross*; also they are as great worshippers of painted *Images*, there being scarce a Family without them; and also have them placed about the *walls* of their *Churches*, directing their Prayers to them; and these *Images* are adorned with *Pearls* and *Precious Stones*; and if it happen that any person is Excommunicated, both He and his Images are not allowed the liberty of the *Churches*, which are esteemed Sacred places by them, and are built round, and vaulted like a *Dove-house* in imitation of *Heaven*. Their Devotion is performed standing or kneeling, having no Seats in their *Churches*; and in their *Communions* they hold *Transubstantiation*. They are strict observers of *Fasts*, of which they have a great many, besides every *Wednesday* and *Friday*, on which they will not eat any kind of *Flesh*, nor that which comes from it.

Ceremonies observed by them.

Their Fasts.

Their Funerals.

In their *Funerals* they also observe several Ceremonies. As soon as the sick person is deceased, they send for all his *Relations* and *Friends* near at hand, who stand by him lamenting his loss in a howling tone, demanding why he would die? whether he wanted any thing? whether his Wife was constant to him? or the like ridiculous Questions. Also they send to the *Priest* a Present of *Aqua-vitæ*, *Hydromel* and *Beer*, that he may pray for the Soul of the deceased. Their Lamentations being ended, they wash the Body of the deceased, put a clean *Shift* and *Shroud* about him, as also a pair of new *Buskins* on his feet, and so lay him in the *Coffin* and carry him to *Church*, the *Priest* going first, who carrieth the Image of his *Saint*; and being come to the *Grave* the *Coffin* is uncovered, and whilst the *Priest* says certain Prayers, the said *Image* is held over the *Corps*, and the Wife, Relation and Friends kiss him, and take their last farewel in grievous Lamentations; then the *Priest* puts betwixt his fingers a piece of Paper, which is a Pass directed to St. *Peter*, signed by the *Patriarch* or the *Metropolitan* of the place, wherein is declared what he is, how he lived in obedience to the *Church*, &c. as also a penny in his Mouth; after which the *Coffin* is covered and the *Corps* interr'd with his face to the East: then the People doing their devotions to the *Images*, return to the House of the deceased, where they dine and comfort up the Widow. Their usual time of Mourning is forty days, in which time they make three Feasts for the Friends of the deceased.

Baptism.

They hold *Baptism* of great importance; insomuch that they Baptize their Children so soon as born; and if it happen that through weakness the Child cannot be brought to the Church, then it is baptized at home; and in this they observe several Ceremonies. And the *Child* being baptized, the *Priest* assigns it a particular *Saint*, the Image of which he delivers to the Godfather, charging him to instruct the Child to have a devotion to his Saint.

Ecclesiastical Government.

Their *Ecclesiastical Government* consists of a *Patriarch*, which is the Head of the Church, and as it were *Pope*, who hath under him several *Metropolitans*, *Archbishops*, *Bishops*, *Arch-Deacons*, *Proto-Popes*, and *Priests*.

The Grand Duke of *Moscovy* is absolute Lord both of the Lives and Estates of his Subjects, whom he treats little better than Slaves, his chiefest aim being for what he can get, more than the good and welfare of his People, being not subject to *Laws*, but makes what seemeth good unto him, which, though never so tyrannical, are strictly obeyed; yet he will seem to take advice of his *Knez* and *Bojares*, who are as his *Privy Council*. His *Revenues* and *Riches* cannot but be great from the several ways from which he raiseth it, as by ille-

gal *Taxes*, *Customes*, his *Lands*, and what he taketh from his Subjects at pleasure. He is apparelled like a *King* and a *Bishop*, wearing with the Royal Robes a *Miter* and a *Crosiers-Staff*, and observeth a great deal of state and grandure.

The Estates of *MOSCOVY* comprehend 3 *Kingdoms*, about 30 *Dutchies* or *Provinces*, and about 20 *People* or *Nations*, who live by *hoords* or *Communalties*, all which I have taken notice of in the *Geographical Table* of *Moscovy*. The Country is not so populous as spacious, nor very well frequented by Strangers, so that I cannot give so good account thereof, as otherwise I would, of which in order.

Province of *Dwina*. *DWINA*, a Province of a large extent, but very barren, hath for its chief places *Dwina*, seated on the River so called, which falls into the Northern Ocean; and on the Mouth of the said River, on the Sea-shoar is seated the City of St. *Michael* (commonly called *Arch-Angel*) a place of note for its great Trade, and much resorted unto by the *English*.

Pleskow. *PLESKOW*, a large Province, whose chief place is so called, being large and fair, and the only *walled City* in the Empire; a place of great strength, very populous, and dignified with an *Episcopal See*.

Novogrodeck. *NOVOGRODECK*, very Northernly seated, a Province also of a large extent, whose chief place is so called, seated on the River *Nasa*, dignified with an *Episcopal See*, a City which for fairness and largness, might once compare with any in *Russia*, being formerly one of the Mart-Towns of *Europe*, which is now removed to St. *Nicholas*, a Port-Town, more convenient for the *Moscovian* Trade.

CARGAPOL, *WOLOGDA*, and *BIELEZERO*, whose chief places bear their names, are *Provinces* of this Dukedom.

Province of *Moscovia*. *MOSCOVIA* is one of the largest Provinces in all *Russia*, and seated in the midst of this large Estate, so called from *Mosco* its Metropolitan City, seated on a River so called, dignified with the *Imperial Seat*, as also with the See of the *Patriarch*. This City, before its firing by the *Tartars*, was 9 or 10 miles in circuit, but now not above half the compass; it is very populous, and hath for Divine worship 16 *Churches*, of which about half are made of *Wood* and *Dirt*, as are most of the Houses. The *Palace* of the Great *Duke* is seated in the heart of the City, a large Structure, well fortified with 17 *Turrets* and 3 great *Bulwarks*, which are always guarded with about 25000 *Souldiers*, which, with two *Castles* seated in the outward parts of this City, is its only defence, being without a *Wall* or *Ditch*.

Wolodimire. *WOLODOMIRE* is a Dutchy very fertil in *Corn*, its chief City being so called, once dignified with the residence of the Great *Duke* till removed to *Mosco*, from which it is distant 36 Leagues, now dignified with an *Episcopal See*.

Twer. *TWER* is a fair, fertil and populous Province, washed by the *Volga*; its chief place is so called, dignified with the See of a *Bishop*, which for beauty and largness may compare with *Mosco*, from which it is distant about 140 miles.

Reschowa. *Bielski*. *RESCHOWA*, a Dutchy, which takes its name from its chief City; as doth the Dutchy of *BIELSKI*, from *Biela*.

Rezan. *REZAN* is a Dutchy so fertil that its fellow cannot be found in all these parts, yielding *Corn* to admiration; its chief City also bears the same name, which is seated on the River *Occa*, dignified with an *Episcopal See*.

WORO-

Worotin. *WOROTIN*, a Province also, so called from its chief City, seated on the said River *Occa*, and defended by a strong *Castle*.

Permski. *PERMSKI*, a Province of a large extent; its chief City is so called, seated on the River *Vischora*.

Wiatka. *WIATKA*, a barren and woody Country, and much pester'd with the Incursions of the *Crim Tartars*; its chief place being so called.

Petzora. *PETZORA* is a Province fenced on all sides by lofty *Mountains* and *Rocks*; its chief place takes the name of the Province, seated on a River so called near its fall into the Sea, and on these *Mountains* are found excellent *Hawks* and *Sables*, which bring some profit to the Inhabitants.

Other Provinces. *INHORSKI*, *CONDORA*, *OUSTIOUGA*, *SUSDAL*, *ROSTHOW*, and *JAROSLAU*, are Provinces of this Dukedom.

Cason. Towards the South, and about the *Don* and the *Volga*, are several Cities, People, and Fortresses, as are mentioned in the *Geographical Table*; as are several Provinces or Estates upon and beyond the River *Oby*.

Besides these Provinces, the Grand Duke holds at present towards *Asia*, the Kingdoms of *Casan*, *Bulgaria*, and *Astracan*.

Bulgaria. *CASAN* is a Kingdom in *Tartaria Deserta*, whose chief place is so called, seated on the *Volga*; now dignified with the See of a *Bishop*, is in the Kingdom of *BULGARIA*, whose chief place is so called.

Astracan. *ASTRACAN* lieth on the *Volga*, whose chief place is so called, enjoyeth a good Trade, especially by the *Armenians*, by reason of its commodious situation, on the branches of the *Volga*, about 20 *Italian* miles from the *Caspian Sea*.

The ISLES of GREAT BRITAIN, with the Territories thereto belonging, are those of

- GREAT BRITAIN, where are at this day two Kingdoms and one Principality, to wit,
  - The Kingdom of ENGLAND, which according to the SAXON HEPTARCHY, hath had Seven Kingdoms, viz.
    - Kingdom of KENT, — Canterbury, Rochester.
    - Kingdom of SOUTH SAXONS, — Southwark, Chichester, Winchelsey.
    - Kingdom of EAST ANGLES, — Norwich, Ipswich, Cambridge, Ely
    - Kingdom of EAST SAXONS, — Colchester, London
    - Kingdom of WEST SAXONS, — Exeter, Bristol, Bath, Salisbury, Southampton, Dorchester.
    - Kingdom of NORTHUMBERS, — York, Lancaster, Durham, Carlisle, Berwick.
    - Kingdom of MERCIA, — Leicester, Lincoln, Nottingham, Darby, Oxford, Gloucester, Worcester, Leichfield, Chester, Hereford.
  - The Principality of WALES, as it was divided into
    - SOUTH WALES, — Brecknock, Cardigan, Cardiff, Monmouth.
    - NORTH WALES, — Flint, Denbigh, Carnarvan, Mongomery.
  - The Kingdom of SCOTLAND, which hath once had the Kingdoms of the
    - SCOTS, beyond the Tay, — Cromartly, Elgin, Aberdone, Perch, Dunkeldon.
    - PICTS, on this side the Tay, — Dunstafag, Dunkirton, St. Andrews, Dunblain, Sterling, Edinburgh, Glasco.
- IRELAND, or — The Kingdom of IRELAND, with its Provinces, which were formerly so many Kingdoms, viz.
  - ULSTER, — Donegal, Dungannon, Armagh, Tredagh.
  - MUNSTER, — Cassile, Lymerick, Kinsale, Cork, Waterford.
  - CONNAUGHT, — Slego, Galleway, Rosecomen, Letrim.
  - LEINSTER, — Molingar, Trymm, Dublin, Kildare, Kilkenny.
- And a great many small ISLES, to wit, those
  - About SCOTLAND, — The Orcades, The Isles of Shetland, The Western Isles.
  - About ENGLAND, — The Sorlings, The Isle of Man, The Isle of Wight, The Isle of Jarsey, The Isle of Garnsey.
- In AFRICA, in the Kingdom of — Fez — Tangier.

Besides the several Factories belonging to the Royal Company, from Sally in South-Barbary to Cape Bonna Esperanza; as at Gambo, Rio, Nuno, Rio Grande, Siera, Liona, Serbro, Ceftos, Achin, Anta, Comenda, Cape, Corso, Acara, Cormentine, Ardra, Benin, Callabar, &c. In the East Indies, in ASIA, the several Factories belonging to the East-India Company; as Surat, Bambay, Curwar, Baticale, Calicut, Fort St. George, Penzapoli, Musulipatan, Bellisar, Ougely.

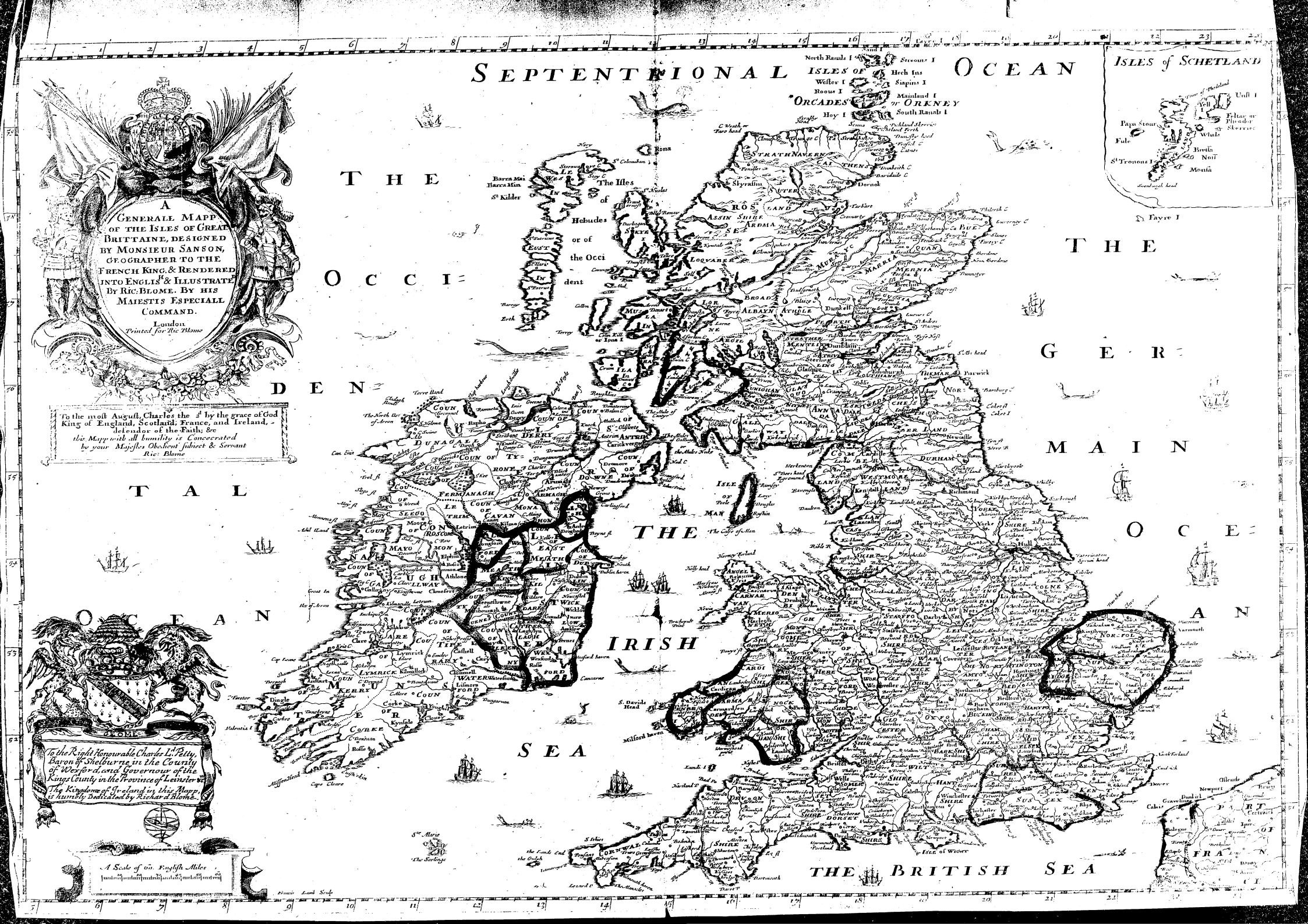
- In the West Indies, or North AMERICA,
  - On the Continent,
    - New England — Boston.
    - New York, — New York.
    - New Jersey.
    - Mary-Land.
    - Virginia. — James Town.
    - Carolina — Charles Town.
  - The ISLES of
    - Newfound-Land.
    - the Bahama Isles.
    - Bermudes — St. Georges.
    - Jamaica, — Port Royal.
    - Barbados. — St. Michaels.
    - St. Christophers, — Basse Terre.
    - Nieves, — Bath-bay.
    - Monserat.
    - Antego.
    - Anguilla.
    - St. Vincent.
    - St. Dominica.
    - Barbada.

The

The Kingdom of ENGLAND may be divided into

- ENGLAND, particularly so call'd, in which if Monmouthshire were included, there would be 40 Shires; and which, according to the SAXONS Heptarchy, are thus divided, and that as they regard the 4 Quarters, and then
  - The Nine towards the East and South, and which made the Kingdoms of
    - KENT, where is only Kent, — Canterbury, Rochester, Dover, Sandwich.
    - SOUTH SAXONS, which contained the Regni, are the Counties of
      - Surrey, — Southwark, Kingstone.
      - Sussex, — Chichester, Winchelsey, Lewes.
    - EAST ANGLES, which contained the Iceni, are the Counties of
      - Norfolk, — Norwich, Yarmouth.
      - Suffolk, — Ipswich, St. Edmonds-Bury.
      - Cambridgshire, — Cambridge, Ely.
    - EAST SAXONS, which contained the Trinobantes, are the Counties of
      - Essex, — Colchester, Harwich.
      - Middlesex, — London, Westminster.
      - Hartfordshire, — Hartford, St. Albons.
  - The Seven regarding the West, and which have made the Kingdom of the — WEST SAXONS, are the
    - Dammonii, or Counties of
      - Cornwal, — Launston, Padstow.
      - Devonshire, — Exeter, Plimouth, Dartmouth.
    - Belgæ, or Counties of
      - Somersetshire, — Bristol, Bath, Wells, Bridgwater.
      - Wiltshire, — Salisbury, Malsbury.
      - Hantshire, — Southampton, Winchester.
    - Durotriges, or Counties of
      - Dorsetshire, — Dorchester, Weymouth.
      - Berkshire, — Windsor, Redding.
  - The Six towards the North, and which have made the Kingdom of the — NORTHUMBERS, are the Counties of
    - Yorkshire, — York, Hull, Richmond.
    - Lancashire, — Lancaster, Lirpool.
    - Durham, — Durham.
    - Cumberland, — Carlisle, Perith.
    - Westmerland, — Kendale, Apleby.
    - Northumberland, — Barwick, Newcastle.
  - The Seventeen in the middle of the Country, and which have made the Kingdom of — MERCIA, are the
    - Iceny, or County of Canteiulani, or Counties of
      - Huntingtonshire, — Huntingdon, St. Ives.
      - Buckinghamshire, — Buckingham.
      - Bedfordshire, — Bedford.
      - Rutlandshire, — Upingham.
    - Coritani, or Counties of
      - Northamptonshire, — Northampton, Peterborough.
      - Leicestershire, — Leicester, Harborow.
      - Lincolnshire, — Lincoln, Bofton.
      - Nottinghamshire, — Nottingham.
      - Derbyshire, — Derby, Chesterfield.
    - Dobuni, or Counties of
      - Oxfordshire, — Oxford, Henley.
      - Glocestershire, — Glocester.
      - Worcestershire, — Worcester.
    - Cornavii, or Counties of
      - Warwickshire, — Warwick, Coventry.
      - Staffordshire, — Stafford, Litchfield.
      - Cheshire, — Chester, Nantwich.
      - Shropshire, — Shrewsbury, Bridgnorth.
      - Herefordshire, — Hereford.
- The Principality of WALES, where are 12 or 13 Counties, and all towards the West of England, and whereof
  - Six towards the North, and which have made the Kingdom of — NORTH WALES, as the Counties of
    - Flintshire, — Flint, St. Afaph.
    - Denbighshire, — Denbigh.
    - Carnarvanshire, — Carnarvan.
    - Isle of Anglesey, — Bewmorris.
    - Merionethshire, — Harlech.
    - Montgomeryshire, — Montgomery.
  - Seven towards the South, and which have made the Kingdom of — SOUTH WALES, as the Counties of
    - Radnorshire, — Radnor.
    - Brecknockshire, — Brecknock.
    - Cardiganshire, — Cardigan.
    - Pembrockshire, — Pembroke.
    - Carmardenshire, — Carmarden.
    - Glamorganshire, — Cardiff, Landaff.
    - Monmouthshire, — Monmouth.
- In divers Isles,
  - In the Great Ocean, to the West of Cornwal, as the SORLINGS, — St. Mary.
  - In the Irish Ocean, to the South of Scotland, as the Isle of MAN, — Ruffin.
  - near Hantshire, as the Isle of WIGHT, — Newport.
  - In the Narrow passage, near France, as the Isles of JARSEY, — St. Hillary; GARNSEY, — St. Peters.

The


A
GENERALL MAPP
OF THE ISLES OF GREAT
BRITTAINE, DESIGNED
BY MONSIEUR SANSON,
GEOGRAPHER TO THE
FRENCH KING. & RENDERED
INTO ENGLIS & ILLUSTRATE
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MAIESTIS ESPECIALL
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To the most August, Charles the 2d by the grace of God
King of England, Scotland, France, and Ireland,
defendor of the Faith; &c
this Mapp with all humility is Consecrated
by your Majesties Obedient subiect & Servant
Ric: Blome
To the Right Honourable Charles Ld Petty,
Baron of Shelburne in the County
of Wexford, and Governour of the
Kings County in the Province of Leinster &c
The Kingdome of Ireland in this Mapp,
is humbly Dedicated by Richard Blome.
A Scale of 60 English Miles
SEPTENTRIONAL OCEAN
THE OCCIDENTAL OCEAN
THE GERMAN OCEAN
THE IRISH SEA
THE BRITISH SEA
ISLES of SCHETLAND
ISLES OF ORCADES or ORKNEY
The Isles of Hebudes or of the Occident
Fayre I
Rona
Barra Mai
Barra Man
St Kilder
Skye
Mull
Ila
Arran
Lewis
Hoy I
Mainland I
South Ranals I
North Ranals I
Streoms I
Hech Ins
Wester I
Siapins I
Roous I
Unst I
Yell I
Fetlar or Plyndar
Skerries
Papa Stour
Fula
Whals
Burdis
Noss
St Tronons I
Mousa
Isle of Wight
Isle of Man

- The Kingdom of KENT, (wherein is only the County of Kent) may be divided Into
  - The Lath of SUTTON, which again is subdivided into the Hundreds of
    - Black-heath — Grenwich, Deptford, Wolledge, Eltham.
    - Little and Leſnes — Eryth, Plampſted.
    - Bromley and Beckenham — Bromley, Beckenham.
    - Rokeſley — St.Mary Cray, Orpinton.
    - Axtan — Dartford, Wimbleton, Greenhith.
    - Godsheath — Sevenoke, Otford.
    - Weſtram — Weſtram, Braſted.
    - Somerden — Speldherſt.
  - The Lath of AYLFORD; where are the Hundreds of
    - Watlington — Pepenbury, Capell.
    - Little Barnefeld — Brenehely.
    - Twyford — Yalding.
    - Lowy of Tunbridge — Tunbridge.
    - Little Field — Royden.
    - Wrotham — Wrotham, Stanſted.
    - Larkfeld — Malling, Aylesford.
    - Maidſtone — Maidſtone, E.Farly.
    - Eyhorne — Lenham, Stockberry.
    - Gittingham and Chetham — Rocheſter, Chetham.
    - Shamell — Cobham.
    - Tottingtrough — Gravesend.
    - Hoo — St.Maries, St.James.
  - The Lath of SCRAY; in which are the Hundreds of
    - Milton — Milton, Queenborow, Sittingborn.
    - Tenham — Tenham, Dodington.
    - Feverſham — Feverſham.
    - Bocton,under Bleane — Bocton, Under Bleane, God Marſhal.
    - Felborough — Wye.
    - Kircholt, Barony — Kenington.
    - Chart — Aſhford.
    - Catehill — Pluckley, Egerton.
    - Blackborne — Apledore, Orlaſton.
    - Barkley — Byddenden.
    - Cranbrook — Cranbrook, Staplehurſt.
    - Marden — Goodherſt, Marden.
    - Fincocks — Bedgbury.
    - Great Barnfeld — Flimwell.
    - Selbrightenden — Sandherſt.
    - Rolvenden — Rolvenden.
    - Tenderden — Tenderden.
  - The Lath of SHEPWAY; wherein are the Hundreds of
    - Oxney — Stone.
    - Aloesbridge — Brookland.
    - Langport — Lyde.
    - St.Martin — Snargate.
    - Ham — Ham.
    - New-Church — New-Church, Bonington.
    - Worth — Romney, Hyth.
    - Streate — Alington.
    - Byrcholt Franchis — Braborne.
    - Stowting — Stowting.
    - Heane — Salwood.
    - Lovingbergh — Eltham.
    - Falkſton — Folkſton.
  - The Lath of St. AUGUSTINE; in which are the Hundreds of
    - Bewsbrough — Dover, E.Langden.
    - Corniloo — Sandown, Deal.
    - Kaſtry — Sandwich, Barfrayſton.
    - Wingham — Ruyner.
    - Kinghamford — Barnhamdown.
    - Bredg and Petham — Canterbury, Patrickſborne.
    - Downhamford — Wyckham.
    - Weſtgate — St.Stephens, Harbledown.
    - Whitſtable — Whitſtable, Seaſalter.
    - Bleangate — Reculver, Hearne.
    - Breſton — Elmeſton.
    - Kingſloe, which is the Iſle of Thanet — St.Johns, St.Nicholas, Mynſter.

The

- The Kingdom of the SOUTH-SAXONS, which contained the Regni; and now the Counties of
  - SURREY, which is divided into the Hundreds of
    - Brixton — Southwark, Rotheriff, Lambeth, Bateſey, Putney, Wandeſworth, Clapham.
    - Kingſton — Kingſton, Richmond, Mortlack.
    - Croydon — Croydon, Caſhalton, Cheame, Carſhalton.
    - Tanridge — Bletchingligh, Burſtow.
    - Reygate — Reygate, Horley.
    - Copthorne and Effingham — Ewell, Banſted, Ebeſham.
    - Darking — Darking, Newdigate, Charlewood.
    - Emley — Cobham, Waybridge, Walton.
    - Chertſey — Chertſey, Egham, Frimley.
    - Woking — Guilford, Ockham, Woking.
    - Farnham — Farnham, Puttenham, Peperharo.
    - Godalming — Godalming, Witley.
    - Blackheath and Wotton — Albury, Cranley, Dunsfold.
  - SUSSEX, which is divided into the Rapes of
    - Chicheſter — Chicheſter, Mydhurſt, Rogar, Binderton, Eaſtbourne, Chydham, Thorney, Emley, Weſt Wittering, Selſey.
    - Arundell — Petworth, Arundell, Storington, Hampton, Fering, Burpham, Barham, Billingshurſt, Rudgwick.
    - Bramber — Horſham, Shoram, Steening, Tarring, Shipley, Etchingfold, Ruſper.
    - Lewes — Lewes, Cuxfield, Brighthemſton, Myching, Oford, Stamner, Porſtad, Wivelsfeld, Balcombe, Crawley.
    - Pevenſey — East Grinſted, Buckhurſt, East-Bourn, Mayfield, Fletching, Hayllham, Bihopſton, Eaſt Deane, Pemſey.
    - Haſtings — Winchelſey, Rye, Haſtings, Battle, Wartling, Warbleton, Euwood, Burwash, Flimwell, Nordiam.

The

The Kingdom of the EAST ANGLES, which contained the Iceni, or Counties of

- **NORFOLK**, as it is divided into the Hundreds of
  - East Flegg — Yarmouth.
  - West Flegg — Winterton.
  - Happinge — Hicklinge.
  - Tunstead — North Walsham, Worstead.
  - North Orpinham — Cromere, Sheringham.
  - Holt — Holt, Clay.
  - Greenhaw — Walsingham, Wells.
  - Gallowe — Burnham-Market.
  - Smithdon — Snettham, Tichwell.
  - Febridge — Linn, Castlerising.
  - Brothercross — Fawkenham, Basham.
  - Launditche — Lexham.
  - Haynford — Repenham.
  - South Orpingham — Caston, Alesham.
  - Taverham — Spikesworth.
  - Blofelde — Burlingham, Tunstall.
  - Clavering and Loddon — Wheatacker.
  - Humliarde — Norwich, Higham.
  - Hensted — Castor.
  - Forehoce — Windham, Hingham.
  - Mitford — East Derenham.
  - Wayland — Watton.
  - South Greenhowe — Swaffam.
  - Clacklowse — Downham, Southrey.
  - Febridge in Mershland — Clenchwarton, Owrwell.
  - Grimshoo — Hockhold.
  - Shoreham — Buckenham, Thetford.
  - Giltcross — Herlinge.
  - Dis — Diss.
  - Depwade — Moulton.
  - Erisham — Harlesion.
- **SUFFOLK**, where are the Hundreds of
  - Mutford — Kessland.
  - Blithing — Sowould, Dunwich, Halesworth.
  - Lothingland — Leystoft.
  - Wagford — Beckles, Bungey.
  - Hoxon — Wlagfeld.
  - Plumesgate — Saxmundham, Alderburgh, Orford.
  - Looes — Framlingham.
  - Treadling — Debenham.
  - Harteſmere — Aye, Mendelsham, Buddesdale.
  - Blackborne — Ikeſworth, Ewston.
  - Lackford — Brandon, Mildnall.
  - Risbridge — New-Market, Haverill, Clare.
  - Thingoe — Bury.
  - Thedwastrie — Wulpett.
  - Baber — Neyland, Lavenham, Sudbury.
  - Cosford — Bilston, Hadley.
  - Stow — Stow.
  - Bosmere — Ipswich, Needham.
  - Carleford — Rushmere.
  - Wilforde — Woodbridge.
  - Colnes — Felixton.
  - Sampford — Harkſted, and Stretford.
- **CAMBRIDGE-SHIRE**, with its Hundreds of
  - Chilford — Lynton.
  - VVitlesford — Sawſted.
  - Triplowe — Hawkeſton.
  - Armingford — Royston.
  - VVetherlee — Barington.
  - Stow — Caxton, and Gamlingay.
  - Papworth — Cunnyngton, and Papworth.
  - North Stow — Longſtanton.
  - Chesterton — Chesterton.
  - Plendish — Cambridge.
  - Radeſley — VVillingham.
  - Cheveley — Ditton.
  - Stane — Bothman.
  - VVichford — Reche, and Merſh.
  - Staplehow — Sotham.
  - Ely — Ely, and Littleport.
  - VVisbich — VVisbich.

The

The Kingdom of the EAST SAXONS, which contained the Trinobantes, or Counties of

- **ESSEX**, in which are the Hundreds of
  - Becontree — Barkin.
  - Havering Liberty — Rumford.
  - Chaford — Brentwood.
  - Barnſtable — Horden, Billerekey.
  - Rochford — Rayleigh, Foulneſs.
  - Dengye — Maldon, St. Peters Chappel.
  - Chelmesford — Chelmesford, Ingerstone.
  - Onger — High Onger.
  - Waltham — Waltham Abby, Epping-ſtreet, Hayfield.
  - Harlow — Harlow.
  - Dunmow — Dunmow, Thaxted.
  - Clavering — Clavering.
  - Utlisford — Walden, Audley-End.
  - Freshwell — Hempſted.
  - Flingkford — Bazyntre, Halſted, Hemingham Caſtle.
  - Witham — Eaſterford, Witham.
  - Thurſtable — Totham, Tolesbury.
  - Lexden — Colcheſter, Coggſhall.
  - Winstred — Veley, Maſſey.
  - Tenderidge — Harwich, Manytre, Horſey-Iſle.
- **MIDDLESEX**, which is divided into the Hundreds of
  - Osleston — London, VVeſtminſter, Chelſey, Kenſington, Fulham, Hamerſmith, Chiſwick, Acton, Hamſted, Highgate, Finchley, Newington, Hackney, Iſlington.
  - Edmonton — Tottenham, Edmonton, Hadley, South Mims.
  - Goare — Hendon, Edgware, Harrow-hill.
  - Elthorne — Brentford, Uxbridge, Hillington, Hounſlow, Ruſlipe, Hayes, Harlington.
  - Isleworth — Iſleworth, Twittenham, Hounſlow, Heſton.
  - Spetthorne — Staines, Stanwell, Bedfont, Sunbury, Hampton Court.
- **HARTFORDSHIRE**; where are the Hundreds of
  - Hartford — Hartford, Hodſdon.
  - Caisho — St. Albans, VVatford, Rickmanſworth, Barnet, Totteridge.
  - Dacorum — Hemſted, Berkamſted, Tringe.
  - Hitching — Hitching, Kempton.
  - Broadwater — Baldock, Hatfield, Stevenedge, VValkorn.
  - Odsey — Royſton, VVallington.
  - Edwinstree — Barkway, Buntingford, Hadham.
  - Braghing — VVare, Puckeridge, Biſhops Stratford, Sabſworth.

P The

The Kingdom of the EAST ANGLES, which contained the Iceni, or Counties of

NORFOLK, as it is divided into the Hundreds of

- East Flegg — Yarmouth.
- West Flegg — Winterton.
- Happinge — Hicklinge.
- Tunstead — North Walsham, Worstead.
- North Orpinham — Cromere, Shevingham.
- Holt — Holt, Clay.
- Greenhaw — Walsingham, Wells.
- Gallowe — Burnham-Market.
- Smithdon — Snetsham, Tichwell.
- Febridge — Linn, Castlerising.
- Brothercross — Fawkenham, Basham.
- Laundiche — Lexham.
- Haynford — Repenham.
- South Orpingham — Caston, Alesham.
- Taverham — Spikesworth.
- Blofelde — Burlingham, Tunstall.
- Clavering and Loddon — Wheataker.
- Humliarde — Norwich, Higham.
- Hensted — Castor.
- Forehoce — Windham, Hingham.
- Mitford — East Derenham.
- Wayland — Warton.
- South Greenhowe — Swaffam.
- Clacklowse — Downham, Southrey.
- Febridge in Mershland — Clenchwarton, Owrwell.
- Grimshoo — Hockhold.
- Shoreham — Buckenham, Thetford.
- Giltcross — Herlinge.
- Dis — Disse.
- Depwade — Moulton.
- Erisham — Hurlestone.

SUFFOLK, where are the Hundreds of

- Mutford — Kirkland.
- Blything — Sowould, Dunwich, Halesworth.
- Lothingland — Leystoft.
- Wagford — Beckles, Bungey.
- Hoxon — Wingfield.
- Plumesgate — Saxmundham, Alderburgh, Orford.
- Looes — Framlingham.
- Treadling — Debenham.
- Hartesmere — Aye, Mendelsham, Buddesdale.
- Blackborne — Ikesworth, Ewston.
- Lackford — Brandon, Mildnall.
- Risbridge — New-Market, Haverill.
- Thingoe — Clare.
- Thedwastrie — Bury, Wulpett.
- Baber — Neyland, Lavenham.
- Cosford — Sudbury, Bilston, Hadley.
- Stow — Stow.
- Bosmere — Ipswich, Needham.
- Carleford — Rushmere.
- Wilsorde — Woodbridge.
- Colnes — Felixton.
- Sampford — Harksted, and Stretford.

CAMBRIDGE-SHIRE, with its Hundreds of

- Chilford — Lynton.
- VVitlesford — Sawsted.
- Triplowe — Hawkesson.
- Arningford — Royston.
- VVetherlee — Barington.
- Stow — Caxton, and Gamlingay.
- Papworth — Cunnyngton, and Papworth.
- North Stow — Longstanton.
- Chesterton — Chesterton.
- Flendish — Cambridge.
- Radesley — VVillingham.
- Cheveley — Ditton.
- Stane — Bothman.
- VVichford — Reche, and Merth.
- Staplehow — Sotham.
- Ely — Ely, and Littleport.
- VVisbich — VVisbich.

The

The Kingdom of the EAST SAXONS, which contained the Trinobantes, or Counties of

ESSEX, in which are the Hundreds of

- Becontree — Barkin.
- Havering Liberty — Rumford.
- Chaford — Brentwood.
- Barnstable — Horden, Billerekey.
- Rochford — Rayleigh, Foulnes.
- Dengye — Maldon, St. Peters Chappel.
- Chelmesford — Chelmesford, Ingerstone.
- Onger — High Onger.
- Waltham — Waltham Abby, Epping-street.
- Harlow — Hasfield.
- Dunmow — Dunmow, Thaxted.
- Clavering — Clavering.
- Utlisford — Walden, Audley-End.
- Freshwell — Hempsted.
- Hingkford — Basyntre, Halsted, Hemingham Castle.
- Witham — Esserford, Witham.
- Thurstable — Totham, Tolesbury.
- Lexden — Colchester, Cosshall.
- Winstred — Verley, Marley.
- Tenderidge — Harwich, Manytre, Horsey-Isle.

MIDDLESEX, which is divided into the Hundreds of

- Ossesson — London, VVestminster, Chelsey, Kensington, Fulham, Hamersmith, Chiswick, Acton, Hamsted, Highgate, Finchley, Newington, Hackney, Islington.
- Edmonton — Tottenham, Edmonton, Hadley, South Mims.
- Goare — Hendon, Edgware, Harrowhill.
- Elthorne — Brentford, Uxbridge, Hillington, Hounslow, Ryslipe, Hayes, Harlington.
- Istleworth — Istleworth, Twittenham, Hounslow, Heston.
- Spetthorne — Staines, Stanwell, Bedfont, Sunbury, Hampton Court.

HARTFORDSHIRE; where are the Hundreds of

- Hartford — Hartford, Hodsdon.
- Caisho — St. Albans, VVatford, Rickmansworth, Barnet, Totteridge.
- Dacorum — Hemsted, Berkamsted, Tringe.
- Hitching — Hitching, Kempton.
- Broadwater — Baldock, Hatfield, Stevenedge, VValkorn.
- Odsey — Royston, VVallington.
- Edwinstree — Barkway, Buntingford, Hadham.
- Braghing — VVare, Puckeridge, Bishops Stratford, Sabsworth.

P The

Part of the Kingdom of the WEST SAXONS, which contained the

DUROTRIGES, or County of

DAMONII, or Counties of

CORNWAL, with its Hundreds of

- Penwith, — Penfans, St. Ives, Market Jew.
- Kerrier, — Penryn, Helfton.
- Powder, — Truro, Grampond, Foy.
- Pider, — St. Colombe, Padftow.
- Trigg, — Bodman.
- Welt, — Weftloe, Liskerd, Lifthyel.
- Eaft, — Launfton, Saltafh, St. Germain.
- Lefnewth, — Bofcaftle, Camelford.
- Stratton, — Stratton.

DEVONSHIRE, which may be conſidered as it is divided into the Hundreds of

- Roborough, — Plimouth.
- Taveſtock, — Taveſtock.
- Lyfton, — Lyfton, Okehampton.
- Black Torrington, — Houlfworthy, Hatherlay.
- Hartland, — Horton.
- Shebbeare, — Bediford.
- Fremington, — Torrington.
- Barnon, — Ilfarcomb, Barnſtable, Combmerton.
- Sherwell, — Sherwel.
- South Moulton, — Moulton.
- Witheridge, — Chimligh.
- Bampton, — Bampton.
- Tiverton, — Tiverton.
- Halberton, — Halberton.
- Hayrudge, — Columbton, Bradmuch.
- Hemyocke, — Hemyocke.
- Axmiſter, — Axmiſter, Huriton.
- Cullington, — Culliton.
- St. Mary Otery, — Otre.
- Eaſt Budleigh, — Sidmouth.
- Clifton, — Broadclift.
- Weſt Budley, — Cadbury.
- Crediton, — Crediton.
- North Tanton, — Bow, Burrington.
- Winckley, — Vinckley.
- Wonford, — Exeter, Chepford.
- Exminſter, — Chidlay.
- Tinbridge, — Morton, Aſhburnton.
- Heytor, — Newton Buſhel.
- Colridge, — Dartmouth, Totnes.
- Stanborough, — Kingſbridge, Dodbrook.
- Armington, — Modberry.
- Plympton, — Plympton.

DORCESTERSHIRE, with its ſeveral Hundreds in each diviſion,

Bridport diviſion,

- Whitechurch, — Lime, Vitchurch.
- Beamiſter, — Beamiſter.
- Redhoave, — Moſterne.
- Eggarton, — Frampton.
- Goderhorne, — Birdport.

Dorceſter diviſion,

- George, — Dorcheſter.
- Tollerford, — Everſhot.
- Puddleton, — Piddlechinton.
- Colliford, — Veymouth, Cheſelton.
- Ugſcombe, — Abbotsbury.

Sherburn diviſion

- Sherborn, — Sherborn.
- Redlane, — Sturmiſter.
- Newton, — Tudboroe.
- Brownſel, — Lydliach.
- Yeatmiſter, — Yeatminſter.
- Tottomb, — Cerne Abby.
- Buckland, — Buckland.
- Whiteway, — Middleton.

Shafton diviſion

- Badbury, — Winbornminſter.
- Cogdeane, — Poole.
- Hanly, — Hanly.
- Cranborne, — Cranborne.
- Knowlton, — Knowlton.
- Upwimborne, — Shaftesbury.

Blanford diviſion

- Pimperne, — Blandford.
- Ruſhmore, — Wareham, Lulworth.
- Barrow, — Whitlovington.
- Coombeditch, — Bloxworth.
- Beer, — Beer.
- Winſrith, — Morton.
- Rowbarrow, — Coyſe.
- Haſler, — Aren.

ATTREBATI, or County of

BERKSHIRE, with its Hundreds of

- Faringdon, — Faringdon.
- Shirvenham, — Shirvenham.
- Lamborne, — Langborne.
- Kentbury, — Hungerford.
- Faircroſs, — Newbury.
- Compton, — Eaſt Iſley.
- Wanting, — Wantage.
- Ganfeld, — Puſay.
- Oke, — Marcham.
- Horner, — Abbington.
- Morton, — Wallingford.
- Theate, — Ingleſeld.
- Reading, — Reading.
- Charlton, — Barkham.
- Sonning, — Okingham.
- Wargrove, — Wargrove.
- Bernerſh, — Remneham.
- Bray, — Maidenhead.
- Ripplemore, — Windſor.
- Cookeham, — Binfeld.

Part

Part of the Kingdom of the WEST-SAXONS, which contained the BELGE, or Counties of

SOMERSETSHIRE; where are the Hundreds of

- Chewe, — Briſtol.
- Kenbury, — Clevedon.
- Hartcliff, and Bedminſter, — Burton.
- Winterſtoke, — Axbridge.
- Cheverton, — Penſford.
- Keynſham, — Caneſham.
- Bathfrom, — Bath.
- Wellow, — Phillips Norton.
- Bromé, — Frowmſelwood.
- Kilmeridon, — Stokeland.
- Bruton, — Bruton.
- Wells, and Welford, — Wells.
- Bempton, — Marck.
- Brent, — Wrinton.
- North Petherton, — Bridgwater, and Hugtſpil.
- Whitleigh, — Weſton.
- Glaſton, — Glaſtonbury.
- Whitſtone, — Shepton-Maller.
- Norton Feris, — Wincaunton.
- Horethorne, — Herſington.
- Cantaxyne, — South Barrow, and Queens Camel.
- Somerton, — Somerton, and North Curry.
- Pitney, — Langport.
- Martock, — Martock, and Ilcheſter.
- Stole, — Evyll.
- Barwick, — Barwick.
- Coker, — Hardington.
- Houndsborough, — Weſt Chenock.
- Tintenhull, — South Petherton.
- Crewkerne, — Crewkerne.
- South Petherton, — South Petherton.
- Kingsbury, — Chard.
- Abdick, — Beacham, and Ilmiſter.
- Taunton, — Taunton.
- North Curry, — Wiveſcombe.
- Auſterfield, — Brumfield.
- Cannington, — Stokeland Marſh.
- Willyton, and Fremanour, — Watcher, and Dulverton.
- Carhampton, — Dunſter, and Mynehead.
- Milverton, — Wellington, and Milverton.
- Bulſton, — Curryvivel.
- Malmesbury, — Malmesbury.
- Highworth, — Highworth, and Crekelade.
- Ramsbury, — Auburne.
- Kingsbridge, — Watton Baſſet, and Auburne.
- Selkley, — Marlborough.
- Calne, — Calne.
- Potterne, and Cannings, — Alington.
- Damerham, North, — Chriſt Malford.
- Chippenham, — Caſtlecombe, and Chipnam.
- Bradford, — Bradford.
- Melkeham, — Trubridge.
- Wheatelsdown, — North Bradley.
- Weſtbury, — Weſtbury.

WILTSHIRE; in which are the Hundreds of

- Swanborne, — Eaſt Lavington, and the Devizes.
- Kingſwarton, — Barbich.
- Elſtube, and Everly, — Everly.
- Amesbury, — Amesbury.
- Alderbury, — Winterſlow.
- Fruſtfield, — Stonley.
- Downton, — Downton.
- Underditch, — Salisbury.
- Branch, and Dole, — Wilford.
- Harsbury, — Harsbury.
- Warminſter, — Warminſter.
- Damerham, — Munkſton Deverel.
- Mere, — Mere, and Hindon.
- Dauworth, — Swallowcliff.
- Chalke, — Norrinton.
- Cawden, and Cadworth, — Wilton.
- Chriſtchurch, — Chriſtchurch.
- Ringwood, — Ringwood.
- Fordingbridge, — Fordingbridge.
- New Foreſt, — Lymington.
- Redbridge, — Rumſey.
- Kingſunborne, — Rumſey, and Stokebridge.
- Budleſgate, — Crawley.
- Bartonſtacy, — Bartonſtacy.
- Horton, — Tuſton.
- Thornegate, — Boſſington.
- Andover, — Andover.
- Paſtrow, — Husborntar.
- Evinger, — Aſhmanſworth, and Whitechurch.
- Kingscleere, — Kingscleere.
- Bolbort, — Silcheſter.
- Chuteley, — Wincherborne.
- Baſingſtoke, — Baſingſtoke.
- Overton, — Overton.
- Micheldever, — Micheldever.
- Burgesborow, — Swarwation.
- Barmanſpit, — Bradley.
- Odiham, — Odiham.
- Crundal, — Fernborow.
- Alton, — Alton.
- Selborne, — Hawkley.
- Sutton, — Alresford.
- Fawley, — Winchester.
- Eaſtermean, — Broxfield.
- Meanſtoke, — Meneſtock.
- Waltham, — Southampton; and Buſhwaltham.
- Mansbridge, — Hound.
- Titchfield, — Farnham.
- Portſdown, — Portſmouth.
- Finchdean, — Peterſfield.
- Boſmere, — Southwood.

The Kingdom of the NORTHUMBERS, which contained the Brigantes, or Counties of

- YORKSHIRE, with its several Hundreds, as they may be considered in the
  - West Riding,
    - Staincross, — Barnesley.
    - Gilling west, — Richmond.
    - Hang west, — Midlam.
    - Hang east, — Masham, Bedall.
    - Gilling east, — Langton great.
    - Hallikeld, — Tanfield.
    - Bulmar, — York.
    - Burford, — Thruske.
    - Allerton, — Alverton.
    - Agbrigg, — Wakefield.
    - Morley and Agbrigg, — Bradforth, Wakefield.
    - Osgodcross, — Pontefract, Snathe.
    - Strafforth, — Doncaster, Rotheram, Sheaffield, Baurre, and Tickhill.
    - Staincross, — Barnesley.
    - Gilling west, — Richmond.
    - Hang west, — Midlam.
    - Hang east, — Masham, Bedall.
    - Gilling east, — Langton great.
    - Hallikeld, — Tanfield.
    - Bulmar, — York.
    - Burford, — Thruske.
    - Allerton, — Alverton.
    - Sandale, — Settle, Skipton.
    - Claro, — Rippon, Borough-bridge, Ripley, Knaresburgh.
    - Ainsty, — Bushopthrop.
    - Barkston, — Sherborne, Selby, and Tadcaster.
    - Skirack, — Ledes, Otley.
  - North Riding,
    - Langbargh and Whitby-strand, — Yarum, Stokesley, Gisburgh, Whitbye.
    - Pickering, — Scarbrough, Pickering.
    - Rydale, — Malton, Hovingham, Helmeley, Kirby-moresale.
    - Buckcross, — Setterington.
    - Dickering, — Bridlington, Kilham, Flamborough-head.
    - Holderness, — Headen, Sprunhead.
  - East Riding,
    - Hunsley, — Hull, Beverley.
    - Bainton, — Bainton.
    - Harthill, — Pocklington.
    - Wilton, — Wilton.
    - Holme, — Wighton.
    - Ouse and Darwent, — Stillingfleet.
    - Howdenshire, — Howden.
- LANCASHIRE, where are the Hundreds of
  - Loynsedale, — Lancaster, and Hornby, Ulverton, and Dalton, Hawkshead, Sunderland-point.
  - Amoundernes, — Garstrange, Kirkham, Preston.
  - Blackborne, — Blackborne, and Hastingde, Colne, Brunley, and Clitheroe.
  - Layland, — Wigan, and Eccleston.
  - Salford, — Manchester, and Rochdale, Bolton, and Bury.
  - West Darby, — Ormiskirke, Lerpoole, Warrington.
- The Bishoprick of DURHAM (as yet not divided into Hundreds,) whose chief places are — Durham, Hartpoole, Bishops-Aukland, Darlington, Seaxdrop, Bernard-Castle, Derwenfore-haven, Sunderland, Stockton.
- CUMBERLAND, (as yet not severed into Hundreds) hath for its principal places, — Carlisle, Penreth, Brampton, Wigton, Wetheral, Ireby, Abby, Holme, Keswick, Kirkswald, Cockermouth, Irton, Werkington, Bottle, Egremond, Whitehaven, Ravenglass, and Blennerhasset.
- WESTMORELAND, (also as yet not divided into Hundreds) whose chief places are — Apleby, Burgh, Kirby-Stephens, Orton, Kirby-Landall, Burton, Kendal, and Amblefide.
- NORTHUMBERLAND, (as yet also not severed into Hundreds) hath for its noted places — Newcastle, Tinmouth-haven, and Castle, Hexham, Morpeth, Alnewick, Barwick, Woller, Holy Island, Cocker Island.

Part of the Kingdom of the MERCIA, which contained the

- CATEIELARI, or Counties of
  - HUNTINGTONSHIRE, with its Hundreds of
    - Norman-cross, — Yaxley, and Ramsey.
    - Huntington, — Huntington, and St. Ives.
    - Leightenstone, — Kimbolton.
    - Toseland, — St. Neats, and Godmanchester.
  - BUCKINGHAMSHIRE; where are the Hundreds of
    - Stoke, — Colbroke, and Eaton.
    - Burnham, — (tham. Beconsield, High-Wickham, and Amer-
    - Desborrow, — Marlow.
    - Alesbury, — Alesbury, and Wendover.
    - Athenden, — Athenden.
    - Buckingham, — Buckingham.
    - Cotslow, — Winslow, and Ivingo.
    - Newport, — Newport, Stony-Stratford, and Oulney.
  - BEDFORDSHIRE; in which are the Hundreds of
    - Stodden, — Potsesley.
    - Wylly, — Bedford.
    - Barford, — Herford.
    - Biggleswad, — Biggleswade, and Potton.
    - Wixamtree, — Cardington.
    - Redbornstock, — Ampthill.
    - Flitt, — Luton.
    - Clifton, — Shefford.
    - Manshead, — Woborne, Tuddington, Leighton, and Dunstable.
  - RUTLANDSHIRE, with its Hundreds of
    - Allstoe, — Burley.
    - East, — Casterton.
    - Martinsley, — Baroughdon.
    - Wrangedyke, — Upingham.
    - Quitchensloock, — Oakham.
  - NORTHAMPTONSHIRE, which may be considered as it is divided into the Hundreds of
    - Nassaburgh, — Peterborough.
    - Willibrooke, — Nassington.
    - Corby, — Rockingham.
    - Polbrook, — Oundle.
    - Navisford, — Thrapston.
    - Huxloe, — Kettering.
    - Orlingsbury, — Walgrave.
    - Rothwell, — Rothwel.
    - Guilsborow, — Lilborn.
    - Fausley, — Daventrey.
    - Newbottlegrove, — Newbottle.
    - Shephoe, — Northampton.
    - Hampfordshoe, — Wellingboroe.
    - Highamferyes, — Higham-Ferrers.
    - Cleley, — Grafton.
    - Towcester, — Towcester.
    - Wimerfley, — Worton.
    - Norton, — Blakesly.
    - Warden, — Edgcote.
    - Sutton, — Brackley. (borow.
  - LEICESTERSHIRE, with its Hundreds of
    - Wesbridge, — Ashby de la Zouth, Montsorel, & Lough-
    - East Goscote, — Leicester. (Would.
    - Framland, — Melton Moubray, and Waltham on the
    - Gartery, — Hallaton, Harburgh, and Billesden.
    - Guthlaxton, — Lutterworth, and Bennones.
    - Sparkinhoe, — Bosworth, and Hickley.
  - LINCOLNSHIRE, as it is divided into the parts of
    - Lindsey, with its Hundreds of
      - Manble, — Burton, and Kirton.
      - Yarbrough, — Barton, Glamfordbridge, and Limberg.
      - Bradley, — Grinisby, and Thongcaster.
      - Ludbrough, — Cawthorp.
      - Walchcroft, — Binbrook.
      - Aslacoe, — Bishops-Norton.
      - Corringham, — Gainesburgh.
      - Well, — Brampton.
      - Lawris, — Lincoln.
      - Wraggoe, — Rande.
      - Gartre, — Horncastle, and Market-Stanton.
      - Louthask, — Saltsleet, Louthe, and Market-Rosen.
      - Calceworth, — Alford.
      - Candleshoe, — Waynfleet, and Burgh.
      - Hill, — Harrington.
      - Bullingbrook, — Bullingbrook, and Spilsby.
      - Horncastle, — Horncastle.
    - Kesteven, where are the Hundreds of
      - Lango, — Blackney.
      - Bothby, — North Hickham.
      - Loveden, — Beckingham.
      - Flaxwel, — Sleford.
      - Aswardhurn, — Howel.
      - Wivebridge, — Ancaster.
      - Grantham, — Grantham, and Belvoir Castle.
      - Aveland, — Folkingham, and Bourn.
      - Beltisloe, — Corbye.
      - Ness, — Marker-Deping, and Stamford
    - Holland, with its Hundreds
      - Ellowe, — Spalding, Holbeck, and Crowland.
      - Kirton, — Dunington, and Kirton.
      - Skirkeck, — Boston.
  - NOTTINGHAMSHIRE, where are the Hundreds of
    - Northclay, — Redford.
    - Bassetlaw, — Worksop, and Blyth.
    - Southclay, — Darlington.
    - Thurgarton, — Nottingham, and Southwell.
    - Newwark, — Newwark.
    - Bingham, — Bingham.
    - Rushcliffe, — Codlingstock.
    - Broxtow, — Mansield. (Frith
  - DARBYSHIRE, with its Hundreds of
    - Highpeake, — Tidesval, Bakewel, and Chaple in the
    - Scardale, — Chesterfield, Alfreton, and Belsover.
    - Workesworth, — Wirkesworth, and Ashborne.
    - Appletree, — Sherley.
    - Morleston, — Darby.
    - Repington, — Newton Sony.

Part of the Kingdom of MERCIA, which contained the

DORSETSHIRE, or Counties of

OXFORDSHIRE; where are the Hundreds of

Banbury,	Banbury.
Bloxam,	Milcombe, and Hook Norton.
Chadlington,	Chippingnorton.
Wotton,	Oxford, Woodstock, and Deddington.
Ploughley,	Burcester.
Bullington,	Cuddesden.
Bampton,	Burford, Witney, and Bampton.
Dorchester,	Dorchester.
Time,	Tame.
Lewknor,	Emington.
Pirton,	Watlington.
Ewelme,	Warborough.
Binfield,	Henley.
Kyftgate,	Winchcombe, and Camden.
Tewksbury,	Tewksbury.
Botloe,	Newnham, and Newent.
Weltminster,	Apperley.
St. Briavels,	Dean Magna.
Westbury,	Westbury.
Blidesiow,	Blakney, or Blakley.
Cleve,	Cleve.
Tibolston,	Beckford.
Chettenham,	Chettenham.
Kingsbarton,	Sherenton.
Dunstone,	Gloucester.
Rapisgate,	Elston.
Bradly,	Lech.
Slaughter,	Stow on the Would.
Britlesbartow,	Lechlade.
Crotherne,	Cirencester.
Biesley,	Stroud, and Panswick.
Whitstone,	Leonard, and Stanley.
Longtree,	Minchinhampton, and Tetbury.
Grombaldash,	Chipping-sodsbury, Marsfield, and Horton.
Wotton,	Durtley, and Wotton Underedge.
Gloucester,	Sutton.
Barkley,	Barkley.
Thornbury,	Thornbury, and Fairfield.
Swinshed & Langley,	Littleton.
Henbury,	Compton Grenuyld.
Barton,	Bristol.
Pocklechurch,	Pucklechurch.

GLOUCESTERSHIRE; which may be considered as it is divided into the Hundreds of

WORCESTERSHIRE; where are the Hundreds of

Halfeshire,	Sturbridge, and Kidderminster.
Dodingtre,	Droitwich, and Bromesgrove.
Worcester,	Bewdly, and Tenbury.
Upton,	Worcester.
Perthor,	Upton.
Oswalderstow,	Pershore.
Blakenhurst,	Throgmorton.
	Evesholme.

WARWICKSHIRE; with its Hundreds of

Hemlingford,	Solihul, Bermicham, Polesworth, Tamworth, Golchil, Suttonchofeld, Atherton, and Nun-Eaton.
Coventry,	Coventry.
Knightlow,	Rugby, and Southam.
Kyneton,	Warwick, Kyneton, and Shipton.
Barlichway,	Bitford, Stretford on the Avon, Aulcester, and Henley in Arden.
	Lecke, Chedle, Ulfoxater, and Pagits Bromley.

STAFFORDSHIRE; with its Hundreds of

Totmonsloe,	Stafford, Newcastle, Eccleshal, and Stow.
Dyrchil,	Brewood, Ridley, and Penkrich.
Cudlefton,	Wolverhampton. (Tamworth.
Seisdon,	Lichfield, Burton on Trent, Walsal, and
Offelow,	Legrange.

CHESHIRE; where are the Hundreds of

Wyrehal,	Frodesham, and Tarvin.
Edesbury,	Chester, and Malpas.
Broxton,	Nantwich.
Nantwich,	Northwitch, Middlewich, Sambach, and Congleton.
Northwich,	Macklesfield, and Stopford.
Macclesfield,	Knotresford, and Altringham.
Bucklow,	Whitechurch, Draton, Prees, and Wem.

SHROPSHIRE; which may be considered as it is divided into the Hundreds of

North-Bradford,	Elsmere.
Pimhill,	Oswestre.
Oswestre,	Strettons.
Ford,	Chirbury.
Chirbury,	Bishops-Castle, and Shipton.
Purflow,	Bertus.
Clunn,	Didlesbury.
Munslow,	Ludlow.
Overs,	Bridgnorth, and Clebury.
Stottesdon,	Shrewsbury.
Shrewsbury,	Wenlock.
Wenlock,	Stapleton.
Condover,	Newport, and Wellington.
Bradford,	Bonyngal.
Brimstry,	Kyneton.
Wigmore,	Huntington.
Hunlington,	Hardwick.
Ewiastacy,	Madley.
Webstre,	Great Birch.
Wormelow,	Ross.
Greytree,	Lidbury.
Radlow,	Hereford.
Grimsworth,	Bramyeard.
Broxash.	Lemster.
Wolfey.	Pembridge, and Webley.
Stretford.	

HEREFORDSHIRE; in which are the Hundreds of

WALES, which may be considered as it is divided into

NORTH WALES; where are the Counties of

FLINTSHIRE, as yet not divided into Hundreds; it hath for its chief places

	St. Asaph,
	Flint,
	Caierwis.

DENBIGHSHIRE, as yet also not divided into Hundreds, hath for its chief places

	Denbigh,
	Llanrost,
	Ruthin,
	Wrexham.

CAERNARVANSHIRE, also as yet not severed into Hundreds, whose chief places are

	Carnarvan,
	Bangor,
	Aberconwey,
	Newin,
	Pulhely, and Krekyth,
	Bardesey Island.

ISLE of ANGLESEY, with its Hundreds of

Tallibollion,	Holyhead.
Llyfon,	Llandrogarg.
Tyndaythwy,	Bewmaris
Twrkelyn,	Llandourdok.
Meney,	Newburgh,
Maltraeth,	Aberfraw.

MERIONETHSHIRE; where are the Hundreds of

Ardydwy,	Harlech.
Talibont,	Dolgelhe.
Vstymanale,	Aberdowye.
Mowthy,	Maynloyd.
Penlyn,	Bala.
Ydeirmoor,	Corwen.

MONTGOMERYSHIRE; in which are the Hundreds of

Mechavy,	Llanvilling.
Vfrondmarchel,	Montgomery, Welshpoole.
Kery,	Kery.
Kidriorn,	Newtown.
Kare Eynion,	Llandaguan.
Kyfy Log,	Machenlet.
Yrrofty,	Llanidios.

RADNORSHIRE; where are the Hundreds of

Rayadergowy,	Rayadergowy.
Knighton,	Knighton.
Kevenlice,	Llanbadern.
Radnor,	New Radnor, Prestaine.
Painscastle,	Llanhedder.
Collowini,	Dyffart.

BRECKNOCKSHIRE, with its Hundreds of

Beale,	Beale.
Talgarth,	Hay.
Merthye,	Merterkynok.
Dyvynnock,	Divynock.
Penkelly,	Brecknock.
Crickhole,	Crecowell.

CARDIGANSHIRE, with its Hundreds of

Tredvoir,	Cardigan, Cardigan Island.
Moythen,	Llaabeder.
Pennarth,	Tregaron.
Llanylar,	Llanrusted.
Llanbadarn,	Aberysthwyth.

PEMBROOKSHIRE, which is divided into the Hundreds of

Kemes,	Newport.
Kilgarvan,	Kilgarvan.
Dewysland,	St. Davids, Ramsey Island, the Bishop and his Clerks.
Dungledy,	Lauhaden, Wiston.
Rowse,	Haverford, west, Rosemarket, Scaline Island, Stockholme Isle.
Nerberth,	Tenby and Narberth.
Castle Martin,	Pembroke, Caldey Island.

SOUTH WALES; in which are the Counties of

CAERMARDENSHIRE; where are the Hundreds of

Derllys,	Kancharne.
Elluet,	Caermarden, and Newcastle.
Kidwellyc,	Kidwyly, Llanelithye.
Perue,	Llanymdofry, Llangadok.
Cayo,	Llandilouawre.
Cathinok,	Abergerlech.

GLAMORGANSHIRE; in which are the Hundreds of

West Gowre,	Swansey and Penrise, Mumbles point, Pennarth point, Oxwich point, Wormshead point.
Llangevelach,	Llansamled.
Neath,	Aberavon, and Neeth.
Newcastle,	Bridgend.
Ogmore,	Ogmore Castle, Nash point.
Cowbridge,	Cowbridge.
Denispowis,	Porkerry Castle, Barry Island, Sylye Isle.
Cardiff,	Cardiff, Landaff.
Caerfily,	Caerphilly.
Lantrissent,	Lantrissent.

MONMOUTHSHIRE, (now an English County,) where are the Hundreds of

Bergaveny,	Abergavenney.
Skenfrith,	Mounmoth.
Ragland,	Ragland.
Caldicot,	Chepston, Goldecliffe.
Uske,	Uske, Carlion.
Wenlooge,	Newport.

ENGLAND.

Small Isles belonging to *Great Britain.*

THE Kingdom of *England*, with that of *Scotland*, forms an Island, which bears the name of *Great Britain*; unto which belongeth a vast number of lesser *Isles*, which may be considered under four heads or sorts, *viz.* the *Orcades*, the *Hebrides*, the *Sorlings*, and the Isles of *Scilly*, with those of the *Sporades*. All which said *Isles*, with that of *Ireland*, are situate between the 9*th* and the 23*th degrees* of *Longitude*, and the 50*th* and 59*th* of *Latitude*.

England is divided from *Scotland* by the River *Tweed* and *Solway*, a line being drawn from the one to the other; and on all other sides it is begirt with the Sea.

Its extent and division.

The extent and form of these *Isles*, with their situation to each other, doth appear in the *Map*, to which I refer the Reader.

But 'tis probable that some may judge the *Maps* false, for that the true *Geographical* distances of places are lesser than the *Itinerary*. But these Reasons are sufficient to satisfie any to the contrary, 1. the unpassable *Woods*, which lie between places; 2. the high *Mountains* and low *Vallies*; 3. the *Marishes* or *Boggs*; 4. the *Rivers* or *Ponds*; and 5. the *Parks*, or other enclosures, which cause the Traveller to leave his direct line and go about.

It may be divided into two (though unequal) parts, to wit, *England* and *Wales*, separated each from other by the *Severn* and a line drawn to the *Wye*; but the more certain division was by a huge Ditch (which beginning at the Influx of the *Wye* into the *Severn*, reached to *Chester*, where the *Dee* disburthens its self into the *Sea*) 80 miles in length, made by *Offa* King of the *Mercians*, and called *Claudh Offa*.

This Kingdom of *England* is severed into 52 *Shires* or *Counties*, of which 12 make the Principality of *Wales*; and these Counties are subdivided into *Hundreds*, *Wapentakes*, or *Wards*; and those again into *Parishes*, which comprehend *Boroughs*, *Villages*, *Hamlets*, *Endships*, or *Tithings*.

Its division according to the Circuits of the Judges.

England is also divided into six parts, for the Circuits of the 12 *Itinerary Judges*, two of which twice every year are alotted for each Circuit, in the chief Town or Towns of each County in the said Circuit, to sit and hear Causes, and to administer Justice for the ease of the Subject; and according to this division, one Circuit doth contain the Counties of *Wilts*, *Somerset*, *Devon*, *Cornwall*, *Dorset*, and *Hantshire*. Another, those of *Berks*, *Oxford*, *Glocester*, *Monmouth*, *Hereford*, *Worcester*, *Salop*, and *Stafford*. Another, those of *Kent*, *Surry*, *Sussex*, and *Hartford*. Another, those of *Bedford*, *Bucks*, *Cambridge*, *Huntington*, *Norfolk*, and *Suffolk*. Another, those of *Northampton*, *Rutland*, *Lincoln*, *Derby*, *Nottingham*, *Leicester*, and *Warwick*. And another, those of *York*, *Durham*, *Northumberland*, *Cumberland*, *Westmoreland*, and *Lancaster*. The two remaining Counties, *viz.* *Middlesex* and *Cheshire* being exempted, the one for its vicinity to *London*, and the other as having its peculiar *Judges* for the administration of Justice.

Its division according to the Spiritual Jurisdiction.

For *Spiritual* or *Ecclesiastical Jurisdiction*, this Kingdom is divided into two Archbishopricks, *viz.* *Canterbury* and *York*, under which are 25 Bishops; of which 22 belong to that of *Canterbury*, who is Primate and Metropolitan of all *England*, and but 3 to that of *York*. Now what these *Bishopricks* are, this following Table will declare unto you.

A Catalogue of the Archbishopricks and Bishopricks of England *and* Wales; *together with what Counties are under their Jurisdictions, and what Parishes and Impropriations are in each Dioceſs.*

Archbishopricks and Bishopricks,	Counties under each of their Jurisdictions.	Parishes in each Diocese,	Impropriations in each Diocese,
Canterbury hath	*Canterbury*, and part of *Kent*,	257	140
York hath	*Yorkshire* and *Nottinghamshire*,	581	336
London hath	*Essex*, *Middlesex*, and part of *Hartfordshire*,	623	189
Durham hath	*Durham* and *Northumberland*,	135	87
Worcester hath	*Worcestershire*, and part of *Warwickshire*,	241	76
Winchester hath	*Hantshire*, *Surrey*, Isles of *Wight*, *Garnsey* and *Jersey*,	362	131
Bath & *Wells* hath	*Somersetshire*,	388	160
Oxford hath	*Oxfordshire*,	195	88
Bangor hath	*Carnarvanshire*, *Anglesey*, *Merionethshire*, and part of *Denbighshire*,	107	36
Rochester hath	part of *Kent*,	98	36
Ely hath	*Cambridgshire*,	141	75
Chichester hath	*Sussex*, and part of *Hartfordshire*,	250	112
Salisbury hath	*Wiltshire* and *Berkshire*,	248	109
Lincoln hath	*Lincolnshire*, *Leicestershire*, *Bedfordshire*, *Huntingtonshire*, *Buckinghamshire*, and part of *Hartfordshire*,	1255	577
St. Asaph hath	part of *Flintshire*, and part of *Denbighshire*,	121	19
St. Davids hath	*Pembrookshire* and *Carmarthenshire*,	308	120
Peterborough hath	*Northamptonshire* and *Rutlandshire*,	293	91
Landaff hath	*Glamorganshire*, *Monmouthshire*, *Brecknockshire*, and part of *Radnorshire*,	177	98
Carlisle hath	part of *Cumberland*, and part of *Westmerland*,	92	18
Exeter hath	*Devonshire*, *Exeter* City, and *Cornwall*,	604	239
Chester hath	*Cheshire*, *Richmondshire*, *Lancashire*, part of *Cumberland*, *Westmoreland*, *Flintshire*, and part of *Denbighshire*,	256	101
Bristol hath	*Dorsetshire*, and the City of *Bristol*,	236	64
Norwich hath	*Norfolk* and *Suffolk*,	1121	385
Glocester hath	*Glocestershire*,	267	125
Hereford hath	*Herefordshire*, part of *Shropshire*, *Worcestershire* in part, and part of *Radnorshire*,	313	166
Coventry and *Lichfield* hath	*Staffordshire*, *Derbyshire*, *Warwickshire*, and part of *Shropshire*,	557	250
	Besides peculiar to the Dioceſs of *Canterbury*,	57	24

To these may be added the Bishoprick of *Sodor* in the Isle of *Man*, under the Archbishoprick of *York*, but hath no place or Vote in *Parliament*.

Its fertility and commodities.

ENGLAND is a Kingdom blest with a sweet and temperate Air, and for the generality of a fertil Soil, and very grateful to the Husbandman, abounding in all things necessary for the use of Man, both for Food and Rayment, as *Corn, Cattle, Fowl, Fish, Fruit, Roots, &c.* In the bowels of the got else-Earth are store of excellent Mines of *Lead, Tin, Iron, Copper, Black-Lead*, not where in *Europe, Coal*, and some of *Silver*. It also produceth *Hops, Linnen-Cloth, Tallow, Hides, Leather, Calves-skins, Lamb-skins, Sheep-skins, Cony-skins*, and some *Furrs*; also *Wax, Stockings, Hats, Saffron, Hony, Madder, Butter, Cheese, Herrings, Pilchers*, and *Barrel-Cod*; but above all, *Wool*, of which is made great abundance of excellent *Cloth, Serges, Bays, Kerseys, Worsteds*, and the like Manufactures, which find great vent in Forreign parts; and for Building it affordeth all Materials.

The Weights.

The *Weights* current in this Kingdom are of two sorts, *viz. Troy* and *Averdupois*. Of *Troy* 24 grains make a penny-weight, 20 penny-weight an ounce, and 12 ounces a pound, from which pound *wet Measures* are derived, a pint making a pound; and by this weight, *Gold, Silver, Silk, Pearl, Precious Stones, Bread, &c.* are weighed. By the *Averdupois* is weighed *Butter, Cheese, Flesh, Tin, Iron, Fruits*, and generally all garbled and ponderous Commodities; and this weight is reduced into several denominations, as *Tuns, Hundreds, Quarters, Pounds, Ounces*, and *Drams*; where note, that 16 drams make an ounce, 16 ounces a pound, 28 pound a quarter, 4 quarters a hundred, and 20 hundred a Tun.

The Measures.

The *Measures* are three, *viz.* dry, liquid, and long; the *Dry* are those in which all sorts of dry Commodities are measured, and consisteth also of several denominations, as a pint, quart, gallon or half-peck, peck and bushel, which containeth 64 pints, or 32 quarts, which is 8 gallons: also 8 Bushels make a Quarter, 9 Bushels a Fat of *Coals*, which is a quarter of a Chaldron, 5 Quarters a Wey, 10 Quarters a Last, and 20 Lasts a Combe.

Liquid Measures are those in which liquid substances are measured, of which a Gill is the least, next a quarter, half-pint, pint, quart, pottle, and gallon, which is 4 quarts, 8 Gallons make a Firkin of *Ale*, and 9 a Firkin of *Beer*; 2 Firkins a Kilderkin, 2 Kilderkins a Barrel, which is 36 gallons; 42 Gallons a Tierce, 63 Gallons a Hogshead, 2 Hogsheads a Butt or Pipe, and 2 Butts a Tun. But note that the *Wine Measures* are of less content than the *Ale*, for 4 Gallons *Ale-measure* make 3 *Wine-measure*.

Long Measures are those by which *Cloth, Stone, Glass, Land, &c.* is measured, of which an Inch (which is esteemed the length of 3 *Barly* corns (though divided into less denominations, as half a quarter of an Inch) is the least; and 12 Inches make a Foot, 3 Foot a Yard, which is divided into 16 parts or Nails; 3 Foot 9 Inches is an Ell, 6 Foot a Fathom, 5½ yards, or 16½ foot is a Rod, Perch, or Pole, 40 Rods a Furlong, 8 Furlongs an *English* Mile, which is 320 Poles, or 1760 Yards, or 1080 Paces, or 5 foot to the Pace.

Of Weights, Measures, &c. used in particular Commodities, viz.

The weight and measure of particular commodities.

A Fodder of *Lead* is 19½ Hundred, a Load is 36 Fothels or 175 Stone, and a Stone is 5⅛ pound.
A Fagot of *Steel* is 120 pound, and a Barrel of *Cast-Steel* is 180 pound.
A Stone of *Glass* is 5 pound, and 24 Stone is a Seam.
A Last of *Herrings* is 12 Barrels, every Barrel 12 hundred, and every Hundred 120 *Herrings*.
A Last of *Powder* is 24 Firkins, every Firkin weighing 100 pound neat, and the empty Firkin 12 pound.
A Load of *Timber*, is 50 foot of square Timber.
A Stack of *Wood* is 8½ foot in height, and 12 in length.
A Fagot of *Wood* ought to be 3 foot in length, and 14 inches about, besides the Band.

Billets ought to be 3 foot and 4 inches in length, and the single *Billet* must be 7½ inches about; the *Cast-Billet* 10 inches, and the two *Cast-Billets* 14 inches about. *Billets* of a Cast must be nicked within 4 inches of the end; and *Billets* of 2 Casts within 6 inches of the middle.

A full Sack of *Coals* is 3 Bushels.
Ten Hides make a Dicker, and 20 Dickers a Last of *Leather*.
A Rowl of *Parchment* is 5 dozen.
Twenty Quires of *Paper* is a Ream, and 10 Reams a Bail.
A *Lath* must be 5 foot long, 2 inches broad, and half an inch thick.
A *Plain-Tile* must be 10½ inches in length, 6½ in breadth, and half an inch thick.
Roof-Tiles must be 13 inches in length, with a good and equal proportion of breadth and thickness.
Pan, or *Paving-Tiles*, must be 10 inches square, and 1¼ inch thick.
A *Brick* must be 9 inches long, 4 broad, and 2 inches thick.
Nails are sold by the 1000, and 120 to the hundred.
A Truss of *Hay* is to weigh 56 pound, and 36 Trusses make a Load.
A Truss of *Straw* should weigh 36 pound, and 36 Trusses make a Load.

Courts of Judicature.

As concerning the Courts of *Justice* of this Kingdom, they may be considered under three sorts, to wit, *Ecclesiastical, Temporal*, and one mixt of both; and under these three sorts are comprehended all the Courts of *Judicature*. For *Ecclesiastical* Affairs, are the Synod or Convocation of the *Clergy*, and the *Provincial Synod*, which is kept in both Provinces of *Canterbury* and *York*, *viz.* the Courts of *Arches*, the Courts of *Audience*, the Courts of *Faculties*, the *Prerogative Court*, and the Court of *Peculiars*. The Courts for *Temporal* Affairs are of two kinds, *viz.* for *Law* and *Equity*: for *Law*, those of the *Kings Bench*, *Common Pleas*, *Exchequer*, *Assizes*, Court of *Admiralty*, *Dutchy Court*, *&c.* And for *Equity*, those of the *Chancery*, *Exchequer*, *Requests*, *&c.* And besides these Courts, there are several other Inferiour Courts held in particular Liberties for the Inhabitants thereof. And all these Courts have their peculiar Judges and other sub-Officers.

Precedency.

As concerning Precedency, all Nobles of each degree take place according to their Seniority of *Creation*, and not of *years*, unless descended of the *Blood Royal*, and then they take place of all others of that degree. Yet there are some that by their great Offices or Places at *Court*, or setting at the Helm of State, have precedency; as the *Lord Chancellor* or *Lord Keeper*, *Lord President* of his Majesties Council, *Lord Privy Seal*, *Lord high Chamberlain*, the *Earl Marshal*, the *Lord Chamberlain*, the *Master of the Horse*, *&c.*

Precedency may be thus observed; The *King*, who is the fountain of Honour; the *Prince* of *England*, who is eldest Son to the King, and is born Duke of *Cornwal*, and about the age of 17 years is usually created *Prince* of *Wales*: *Princes* of the *Blood Royal*, who are the Sons, Brothers, Uncles, and Nephews of the *King*. The *Archbishop* of *Canterbury*, the *Lord Chancellor* or *Lord Keeper*; the *Archbishop* of *York*, *Lord Treasurer* of *England*, *Lord President* of the *Privy Council*, *Lord Privy Seal*, *Dukes*, *Marquesses*; *Dukes* eldest Sons, *Earls*, *Marquesses* eldest Sons, *Dukes* younger Sons, *Viscounts*, *Earls* eldest Sons, *Marquesses* younger Sons, *Bishops*, *Barons*, *Viscounts* eldest Sons, *Earls* younger Sons, *Barons* eldest Sons, *Privy Counsellors* that are not Noblemen, Judges, *Viscounts* younger Sons, *Barons* younger Sons, *Knights* of the *Garter* (if not otherwise dignified, as is rarely found,) *Knights Bannerets*, *Baronets*, *Knights* of the *Bath*, *Knights Batchelors*, *Colonels*, *Sergeants* at *Law*, *Masters* of *Chancery*, and *Doctors* and *Esquires*; and those may be comprehended under five several heads, 1. *Esquires* unto the Kings Body; 2. the descendants by the Male-line from a *Peer* of the Realm; 3. the eldest Sons of *Knights* of the *Garter*, *Baronets*, *Knights* of the *Bath*, and *Knights Batchelors*; 4. the two *Esquires* attending on the *Knights* of the *Bath* at their *Knighting*; and 5. Officiary Esquires, as *Justices* of the *Peace*, *Barresters* at *Law*, *Lieutenant Colonels*, *Majors*, and *Captains*; and lastly, *Gentlemen*.

At a *Marshal Court* held at *White-Hall* the 18th of *March*, *An. Dom.* 1615, it was declared and concluded on, that there are two degrees that establish and settle the Title of an *Esquire* by birth; the one, the younger Sons of *Peers* of the Realm, which do invest into the Heirs-males descended from them the Name and Title of *Esquires*; the other, the lineal Heir-male of a *Knights* House: and these may justly assume and challenge the Title of *Esquire* by birth; so that in all reason, the younger Sons of *Peers* are more worthy than *Knights*: so the setling of a Title proceeding from them, is more worthy and eminent than that derived from *Knights*.

The Dominions of England.

The Dominions of the King of *England* are very large, for besides that of *England*, *Scotland*, and *Ireland*, there are divers small *Isles* scituate nigh unto them, and do belong to one or the other; as the Isles of *ORKNEY*, or *ORCADES*, in number 32, seated against the North-cape of *Scotland*. The Isles of *SHETLAND*, also under the *Scotish* Dominions; the *HEBRIDES*, in number 44, seated Westwards of *Scotland*; the *SORLINGS*, seated in the Westrn-cape of *Cornwall*; the *SPORADES*, being several Isles dispersed about the *British Seas*, amongst which these following are the chief: *MAN*, scituate between *England*, *Scotland*, and *Ireland*; *JERSEY* and *GARNSEY* on the *French* Coast; *WIGHT*, part of *Hantshire*; *PORTLAND*, part of *Dorsetshire*; *STEEPHOLMS* and *FLATHOM*, in *Somersetshire*; *AIBBRE*, in *Cheshire*; *DENNY*, in *Monmouthshire*; *CODLET*, in *Pembrokeshire*; *ANGLESEY*, which is one of the *Welsh* Counties; *SHEPPEY*, in *Kent*; *NORTHEY*, *OSEY*, and *HORSEY*, in *Essex*; *FERNE*, *GOCKET*, and *HOLY Isle*, in *Northumberland*; with several other small *Isles* not worth the naming, as indeed many of these are. Then in *Africa*, as *TANGIER*, *GUINEY*, &c. In the *East Indies* several places, though belonging to the *East India Company* of *London*; and in *America* large Dominions, as *NEW ENGLAND*, *NEW YORK*, *MART LAND*, *VIRGINIA*, *CAROLINA*, all which are on the Continent: also divers *Isles*, some of which are very considerable, as *JAMAICA*, *BARBADOS*, *BERMUDOS*, *ANTEGO*, *NEW FOUNDLAND*, &c. all which shall be treated of as they come in order; but first of the *English* Counties.

County of Barkshire described.

BARKSHIRE, well clothed with Wood and watered with Rivers, is blest with a sweet Air, hath a rich Soil fit both for *Corn* and *Pasturage*, (especially in the Vale of *Whitehorse*;) and generally the whole County, for profit and pleasure, yieldeth to few Shires in *England*. The principal Commodity that this Shire produceth is *Cloth*, which finds great vent: and amongst the Rivers that water the County, the *Isis*, the *Oke*, and the *Kenet* (which affords excellent *Trouts*) are the chief.

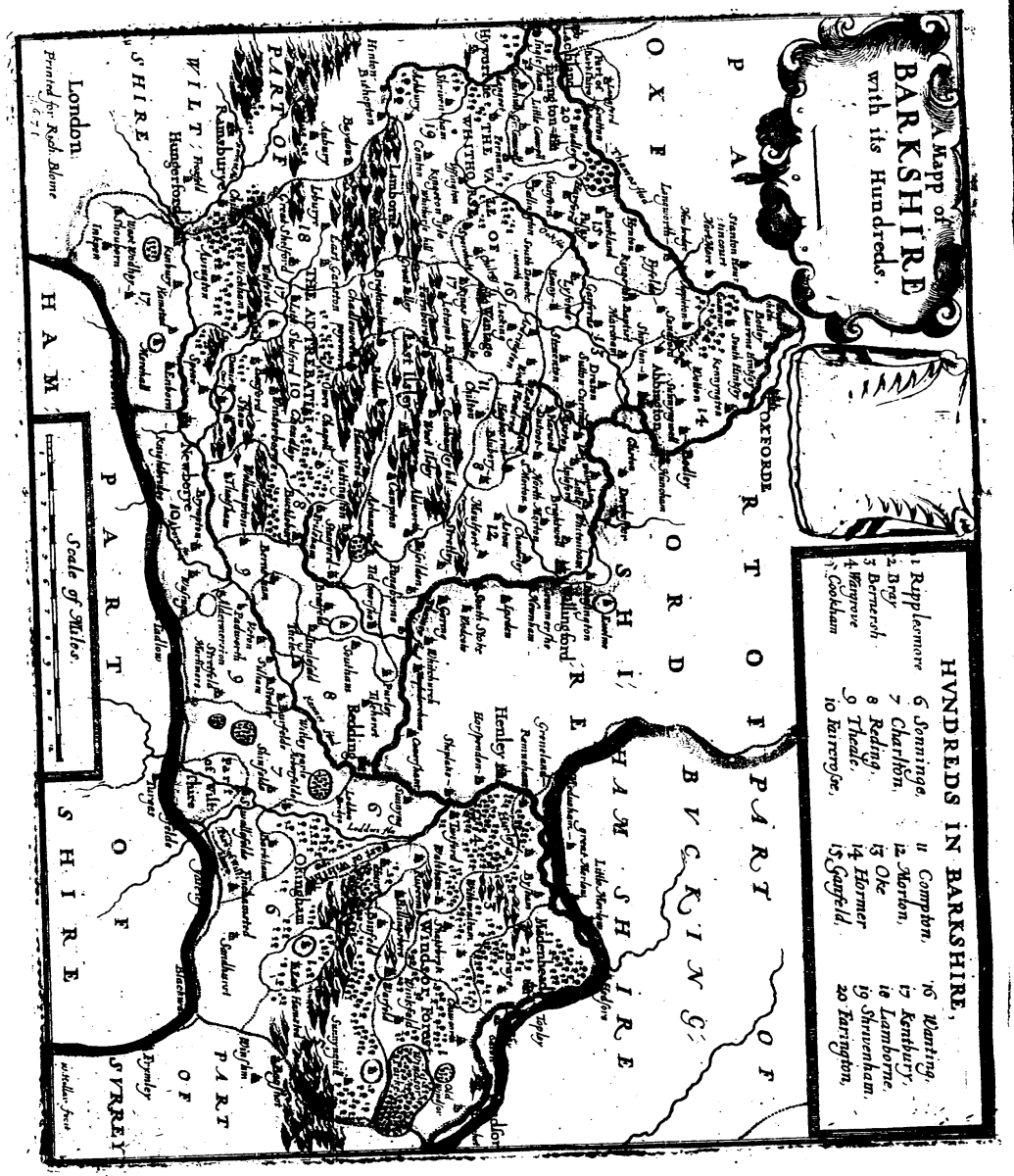
It is severed into 20 Hundreds, in which are 140 Parishes, and hath 12 Market Towns.

Reading.

Reading, pleasantly seated near the *Thames*, and on the *Kenet*, which is navigable for Barges to *London*, which adds much to its Trade, which is considerable, especially for *Cloth* and *Mault*: 'tis a large Town, containing three Parish Churches, is beautified with well built Houses, hath fair Streets, is well inhabited and hath a very considerable Market for Grains, *Mault*, *Hops*, and most Country commodities, on *Saturdays*. 'Tis a Town *Corporate*, governed by a *Major*, 12 *Aldermen*, and as many *Burgesses* with sub-Officers, enjoyeth several Immunities, and sendeth *Burgesses* to Parliament. 'Twas formerly beautified with a fair and rich Monastery, and a strong Castle built by King *Henry* the First, where (in the Collegiate Church of the *Abby*) himself and Queen, with *Maud* their Daughter, were interr'd; both which now lie in their ruins.

Windsor.

New Windsor, pleasantly seated near the banks of the *Thames*, and adjoyning to a *Park* and *Forest* well stored with Game; 'tis a fair, large, well frequented





quented and inhabited *Town Corporate*, governed by a *Major* and other ſub-Officers, ſendeth *Burgeſſes* to Parliament, and hath a very good Market for Proviſions on *Saturdays*. This Town is of great note for its ſtately *Caſtle* and *Royal Palace* of his Majeſty, ſeated on a great eminency, wherein is a *Chappel* for Devotion, a *Colledge* for Learning, and an *Alms-houſe* for decayed Gentlemen, called the *poor Knights of Windſor*; and famous is this *Caſtle*, not only for giving birth to ſo many of our Kings and Princes; but for being the place where the ceremony of the *Knights* of the *Garter* is ſolemnized on St. *Georges* day.

Nigh unto *New Windſor* is *Old Windſor*, a Town of greater antiquity, though not of ſo much ſplendor.

Newbury, well ſeated on the *Kennet*, and in a Champain Plain, a large, well inhabited and frequented *Town Corporate*, governed by a *Major*, *Aldermen* and *Burgeſſes*; beautified with a ſpacious Market-place and well built Market-houſe, ſufficiently ſerved with *Corn*, *Fleſh*, *Fiſh*, and *Fowl*, on *Thurſdays*. This Town had its riſe out of the ancient *Spinæ*, now a ſmall Village near adjoyning, and called *Speenhamland*, and is of note for its *Jack of Newbury*, who got ſo great an eſtate by *Clothing*, which this Town at preſent is very conſiderable for. *Newbury.*

Wallingford, a Town of great antiquity, and in times paſt very ſtrong and large, containing four Pariſh Churches within its Walls, which took up a mile in circuit. 'Tis at preſent a large *Town Corporate*, governed by a *Major*, *Aldermen* and ſub-Officers, enjoyeth large Immunities, and ſendeth *Burgeſſes* to Parliament. 'Tis commodiouſly ſeated on the banks of the *Thames*, over which it hath a fair *Stone-bridge*: its *Market-houſe* or *Guild-hall*, with a *Free-School* lately erected, is a fine pile of building, where the *Major* and *Juſtices* keep their Courts. It enjoyeth a good Trade for *Mault* and *Corn*, which is tranſported in *Barges* to *London*; and its Markets, which are on *Tueſdays*, and *Fridays*, which is the chief, is very conſiderable for Grain and Proviſions. *Wallingford.*

Abington, the Shire-Town, ſeated on the banks of the *Thames*, over which it hath a Bridge; a Town of good antiquity and note in former time for its rich Abby. 'Tis at preſent well inhabited, frequented and traded unto, eſpecially for its *Mault*; is governed by a *Major*, enjbyeth ſeveral Priviledges, ſendeth a *Burgeſs* to Parliament, and hath two Markets weekly on *Mondays* and *Fridays*, which are well ſerved with *Corn*, *Mault*, and *Proviſions*. *Abington.*

This County is adorned with many fair and ſtately Buildings, hath been ſtrengthned with 6 *Caſtles*, and graced with three of his *Majeſties Houſes*. In this Shire is the Vale of *White-horſe*, one of the fruitfulleſt Vales in *England*.

BEDFORD, a County for the generality of a fertil Soil both for Tillage and Paſturage; the North and North-eaſt parts being of a deep Clay, the South a Chiltern, and the midſt a Sandy-ridge of Hills well clothed with Wood. 'Tis a Country well inhabited and full of Gentry, which is occaſioned through its vicinity to the Counties of *Lincoln* and *Huntington*, which in ſome places are troubled with unhealthful Fogs. The chief Rivers that water it, are the *Owſe* and the *Iuell*. County of Bedford deſcribed.

This County is ſevered into 9 *Hundreds*, in which are numbred 116 *Towns*, beſides 59 *Endſkips*; and of theſe Towns 10 have the conveniency of *Markets*.

Bedford, the Shire-Town, pleaſantly ſeated in a rich Soil and on the *Owſe*, which divideth it in the midſt, but joyned together by a fair *Stone-bridge*, which for the prevention of paſſage hath two *Gate-houſes*; it was formerly ſtrengthned with a *Caſtle*, but in its place is now a *Bowling-green*, much reſorted unto by the Gentry. The Town is large, numbring 5 *Pariſh Churches*, is well inhabited, and its Markets (which are on *Tueſdays* and *Saturdays*) are well reſorted unto; that on *Tueſdays* being conſiderable for living Cattle, and that on *Saturdays* as great for Corn and Proviſions. For Civil Magiſtrates, it Bedford.

is

is governed by a *Major*, 2 *Bayliffs*, 2 *Chamberlains*, a *Recorder*, and other ſub-Officers; enjoyeth ſeveral Immunities, and ſendeth *Burgeſſes* to Parliament.

Dunſtable. *Dunſtable*, ſeated on a Hill in a dry Chalky-ground; yet by reaſon of a large Pond of ſtanding-water in every one of the 4 Streets of the Town, the Inhabitants find no want. 'Tis a place of great antiquity, and was of note in the time of the *Romans*, as appears by the *Coins* in the adjacent fields, oft digged up, which the Inhabitants call *Madning-money*; and is at preſent of ſome note for the great abundance of *Larks* here caught. It took the name of *Dunſtable* from one *Dun*, a notorious Robber, that uſed to peſter theſe parts. The Town is fair, well inhabited, full of *Inns*, as ſeated on the high Road, and its Market, which is on *Wedneſdays*, is very conſiderable for *Corn*, *Cattle*, and *Proviſions*.

Bigleſwade. *Bigleſwade*, ſeated on the *Ivell*, which falleth into the *Owſe*, over which it hath a fair *Stone-bridge*, and on the Road from *London* to *York*, which hath occaſioned it to be well provided with *Inns* for the reception of Paſſengers, and its Market on *Tueſdays* is at preſent very conſiderable for *Grain*, *Cattle*, *Milch-kine*, and *Proviſions*.

At *Sande* and *Cheſterfield*, near adjoyning, now a *Warren*, ſtood the famous City of *Salena* of the *Romans*; which, by the ruins of its Walls, (in many places yet to be ſeen) makes it to have been of a large extent.

Buckinghamſhire deſcrib'd. *BUCKINGHAM*, a County for the generality of a fertil Soil; it is divided into two parts; that towards the South and Eaſt (which riſeth up into Hills, which are ſufficiently clothed with *Wood*) is called the *Chilterne*; the other, lying Northwards, (bein plain) is called the *Vale*, and is the moſt fruitful for Tillage and Paſturage, feeding great abundance of *Sheep* and *Cattle*. It is well watered with the *Owſe*, and the *Thames*. The ancient Inhabitants were the *Catejulanii*, who yielded themſelves to *Cæſar*, and upon the *Saxons* ſubduing the *Romans*, it became part of the Kingdom of the *Mercians*.

This County is ſevered into 8 *Hundreds*, in which are 185 *Pariſh Towns*, of which 13 have the conveniency of *Markets*.

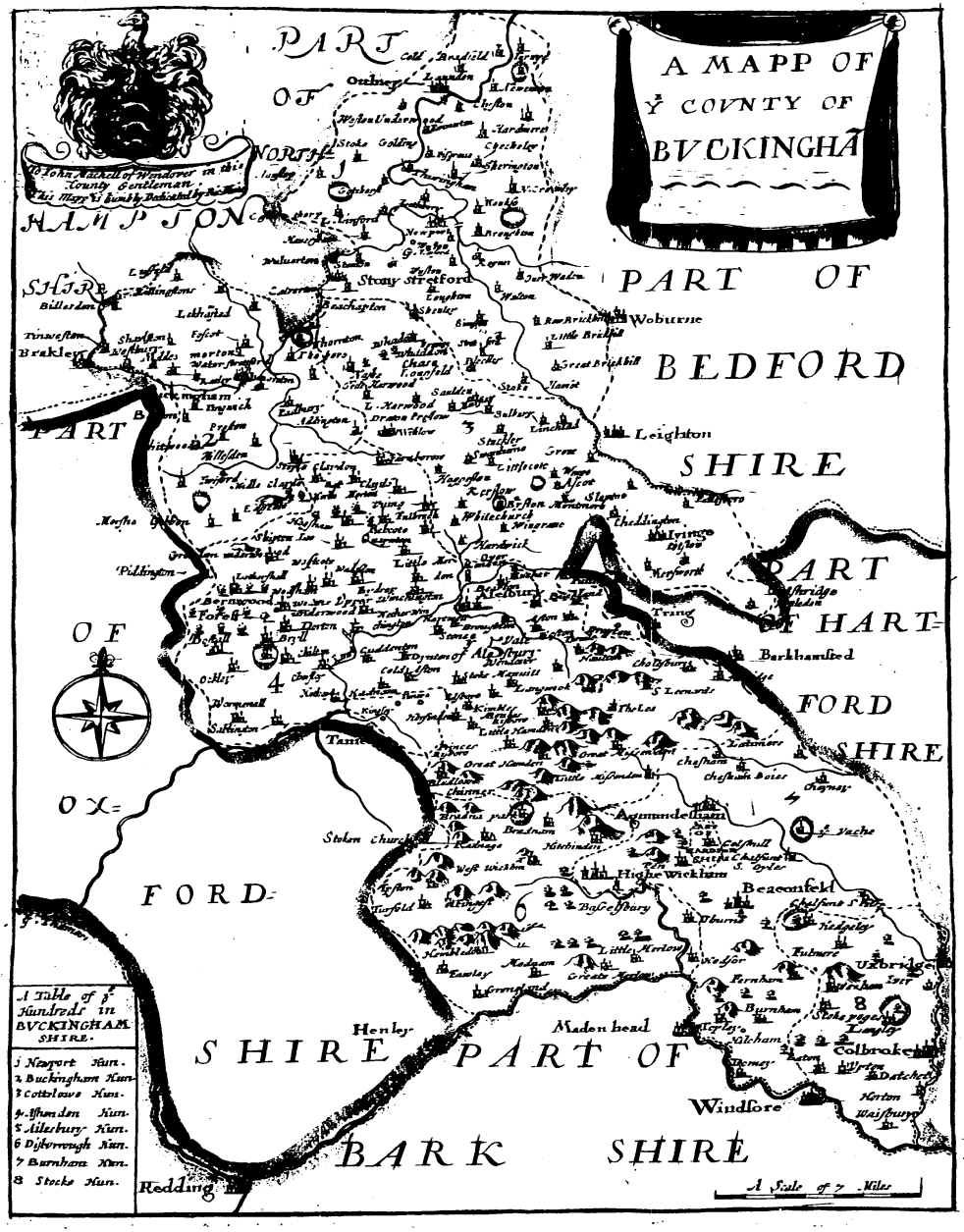
Buckingham. *Buckingham*, well ſeated on the *Owſe*, which almoſt encircles it, over which it hath 3 fair *Stone-bridges*, and in a low fruitful ground. 'Twas once a Town of good ſtrength, and of ſome note for its ſtately *Prebend-houſe*, and its *Chappel* of St. *John Baptiſt*, founded by *Tho. Becket*; now made uſe of for a *Free-School*. It is at preſent a fair and well inhabited *Town Corporate*, governed by a *Bayliff*, 12 principal *Burgeſſes*, a *Steward*, *&c.* is dignified with the title of an *Earldom*, hath the election of *Parliament men*, and its Market on *Saturdays* is well ſerved with all manner of *Fleſh*, *Corn*, and other Proviſions.

Stony-Stratford. *Stony-Stratford*, ſeated on the *Owſe*, a Town of great antiquity, being the *Romans Lactoradum*, and built upon the ancient *Cauſway* called *Watling-ſtreet*, and is at preſent of a good largneſs, containing 2 *Pariſh Churches*, is well accommodated with *Inns*, and hath a conſiderable Market for *Corn*, *Fleſh*, and ſome *Fiſh*, on *Fridays*.

Ailesbury. *Ailesbury*, ſeated on a branch of the *Tame*, and in a fertil *Vale*, ſo called, which feeds ſtore of *Sheep*. It is a fair and well inhabited *Borough-Town*, electing *Parliament men*, is honoured with the Title of an *Earldom*, is the uſual place where the *Aſſizes* for the County are held, having in the midſt of the Town a fair *Shire-hall*, and its Market on *Saturdays* is very well ſerved with *Corn*, *Cattle*, and *Proviſions*.

High Wickham. *High Wickham*, well ſeated in a rich Soil, a *Major* Town, which for largeneſs and fair buildings, is not inferiour to any in the County, of note for its *black Bone-Lace* here made, and its Markets on *Fridays* is very great for *Corn*, *Fleſh*, *Fiſh*, and all Proviſions.

CAM-





CAMBRIDGESHIRE, a County of a different Soil, the Southern part being Champain and indifferent fertil, bearing excellent *Corn* and *Barley*, of which the Inhabitants make abundance of *Mault*: and here is gathered good store of *Saffron*, the dearest commodity that *England* produceth. And the Northern part (called the Isle of *Ely*, as made so by the *Ouse* and its branches) is *Fennish*, and not so pleasant and wholsome to live in as the Southern; but is recompenced with rich *Pastures*, which feed abundance of Cattle, which are very profitable to the Inhabitants, and affords also great plenty of *Fish* and *Fowl*. *Cambridgeshire* described.

This County is severed into 17 *Hundreds*, of which 14 are in the Southern part, and 3 in the Northern, called the Isle of *Ely*; in which said Hundreds are 163 *Parishes*, and for the accommodation of its Inhabitants is traded unto by 8 *Market Towns*.

Cambridge, seated in an Air somewhat unhealthful, occasioned through the Fenny-grounds near adjoyning, and on the River *Cam* or *Grant* (navigable for *Barges*) which separates it into two (but unequal) parts, which are joyned together by a Bridge. 'Tis a place of great antiquity, being said to derive its name from *Cantabar*, a *Spaniard*, who about 395 years before the Incarnation of Christ had there setled the *Muses Seat*; but more certain it is, that *Sigilbert* the first Christian King of the *East Saxons* established here several Schools; and of no less fame for its University or Seminary of true Learning, which is its chiefest ornament, being adorned with 16 *Colledges* and *Halls*, many of which are superb Buildings; and by reason of these *Seminaries* it is a place of a large extent, numbring 14 *Parish Churches*, is beautified with well built Houses, its Streets are paved and well ordered, is well inhabited, enjoyeth a good Trade, and its Market on *Saturdays* is sufficiently furnished with Provisions, which are had at easie rates. It is a *Town Corporate*, endowed with ample Immunities, and sendeth 4 *Burgesses* to Parliament, *viz.* two for the *University*, and two for the *Town*. *Cambridge*.

Nigh unto *Cambridge* Southwards, are *Gogmagog-Hills*, which are of a great eminency, and yet retain the remembrance of the *Danish* Station; and of these Hills the Country people tell fine stories.

Ely, seated in a fenny and waterish place, and on the banks of the *Ouse*, which rendreth it very unhealthful; it is a City of more antiquity than beauty, being but meanly built, nor overmuch frequented or inhabited; and would be far less, were it not for being the See of a Bishop, whose Palace is so ruinous, that it is uninhabitable; but its *Cathedral* or *Minster* is a lofty structure, and beautified with a stately Lanthorn of curious Architecture. It is a City that enjoyeth ample Immunities, for in the Isle of *Ely* the Bishop hath all the rights of a *Count Palatine*, and beareth chief sway therein, appointing a *Judge* for the hearing of Causes within the said Isle; he also holdeth Assizes, Goal-delivery, and Quarter-Sessions of the Peace, and hath his chief Bayliff and other Officers; and although the City is but meanly inhabited, yet its Market on *Saturdays* is well served with Provisions. *Ely*.

New-Market, seated part in this County and part in *Suffolk*, and in a large and pleasant *Heath*, so called; a place of some largness, containing two *Parish Churches*, and is well inhabited and much resorted unto by the *Gentry*, by reason of its commodious situation for *Horse-races* and *Hunting*, being both Recreations that his Majesty taketh so great delight in, that he hath there his *Palace* for his reception; which adds no small advantage to the Town, often honouring it with his Royal presence. Its Markets on *Tuesdays*, which is not very considerable by reason of its vicinity to *Bury* and *Cambridge*. *New-Market*.

Caxton, seated in the Clay, and on the North-road, a small Town, and hath a little Market on *Tuesdays*. *Caxton*.

Royston, seated on the high Road in *Hertfordshire*, a bottom amongst Hills, and part in this County and part in *Hertfordshire*. It is a large, well inhabited Town, and hath a considerable Market on *Wednesdays* for Provisions, especially for *Mault*, here, and in parts adjacent, made in great quantities. *Royston*.



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Caxton, seated in the Clay (and on the North-road) a small Town, and hath a little Market on *Tuesdays*. Caxton.

Royston, seated on the high Road to *Huntington*, in a bottom amongst Hills, and part in this County and part in *Hertfordshire*; It is a large, well inhabited Town, and hath a considerable Market on *Wednesdays* for Provisions, especially for *Mault*, here, and in parts adjacent, made in great quantities. Royston.

CHES.

Cheshire described.

CHESHIRE, a *County Palatine*, of a rich and fertil Soil both for Tillage and Pasturage, feeding abundance of *Cattle*, and affording plenty of *Corn*, *Fish*, (especially *Salmon*) *Fowl*, *Butter*, *Cheese*, and *Salt*, which is their staple commodity, and here had in great plenty: and out of the Rocks and Quarries, broad *Slates* and fair *Stones* for building are dug; as are *Mill-stones* out of *Moucop-Hill*. It is well furnished with Timber and Fuel from its *Woods* and *Forests* of *Delamer* and *Maxfield*; is plentifully watered with *Rivers*, *Meers*, and *Pools*, hath several *Heaths* and *Mosses*. The ancient People were the *Cornavii* of *Ptolomy*, and afterwards became part of the Kingdom of the *Mercians*.

In this County are seated 86 *Parish Churches*, besides 38 *Chappels* of *Ease*, and hath Traffick with 13 *Market Towns*.

Chester.

Chester, or *West-Chester*, a City of great antiquity, said to be raised from the Fort of *Ostorius*, Lieutenant of *Britain*, for *Claudius* the Emperour, and of a pleasant situation on the *Dee*, over which it hath a fair *Stone-bridge*, sustained by eight Arches, at each end of which is a Gate; but the Channel is now so choaked up with *Sand*, that it is scarce navigable for small Vessels, so that all *Ships* now come to a place called *New-Key*, about 6 miles distant. Its form is *Quadrangular*, and taketh up about two miles in circuit within its Wall, on which are 7 Watch-Towers, and which gives entrance by 4 Gates and 3 Posterns, and of these Gates the *East-Gate* is esteemed one of the stateliest Gates in *England*. For its further defence it hath a large *Castle*, seated on a Rocky Hill, where the *Shire Hall* is (which something resembleth that of *Westminster*) where all matters concerning the *County Palatine* are tried by their peculiar Officers. The City is large, numbring 10 *Parish Churches* beside its *Minster* or *Cathedral*, a large structure, adjoyning to which is the *Bishops Palace*; it is beautified with divers fair Buildings, both publick and private, is graced with large and well ordered *Streets*, is well frequented and inhabited by *Gentry* and *Tradesmen*, and the more for being the place where the *Courts Palatine* and *Assizes* are kept, as also for being the usual place of taking Shipping for *Ireland*, with which it hath a great intercourse, and hath a considerable Trade. It is governed by a *Major*, 2 *Sheriffs*, 24 *Aldermen*, a *Recorder* and *Sub-Officers*, enjoyeth ample Immunities, and sendeth *Burgesses* to Parliament, which no other Town in the County doth. It is well served with Provisions, for besides its Shambles, it hath two considerable Markets weekly, on *Wednesdays* and *Saturdays*.

Not far from this City is the Forest of *Delamer*, where *Ædelfled* the *Mercian Lady* built a small City, long since reduced to ruins; which place is now called *The Chamber in the Forest*.

Nantwich.

Nantwich, seated on the *Wever*, the largest and best built Town next to *Chester*, in the County, and is graced with a goodly spacious *Church*. It is a place well inhabited and frequented, chiefly occasioned for its *Salt-pits* or *Salt-wich*, for the making of *white Salt*, here had in great plenty; and its Market, which is on *Saturdays*, is sufficiently provided with all Provisions and necessaries, especially *Corn* and *Cattle*.

Malpas.

Malpas, scituate on a great eminency, and on the River *Dee*, a fair Town, containing 3 Streets, which are pav'd and well ordered; it hath an *Hospital* and *Grammar School*, and its Market on *Mondays* is of good account.

Middlewich.

Middlewich, seated between *Nantwich* and *Northwich*, a large Town, containing several *Streets* and *Lanes*, its chief place being called the *Kings-Mexon*. The Town is of note for its *Salt-pits*, and making of *Salt*, and hath a good Market for Provisions on *Saturdays*.

Maxfield.

Maxfield, or *Macclesfield*, seated near a Forest so called, a very fair and large Town, graced with a goodly *Church*, which hath a high *Spire Steeple*, adjoyning to which is a *Colledge*. The Inhabitants drive a great Trade in making of *Buttons*, and its Market, which is on *Mondays*, is well served with Corn, Provisions, &c.

CORN-





CORNWAL, encompaſſed on all parts, except on the East (by *Devonſhire*) with the *Sea*, which thruſts forth its ſeveral Arms, and receives thoſe many Rivers, which plentifully water the County; as the *Foy*, *Newton*, *Dranes*, *Lo*, *Fala*, *Seaton*, *Loo*, *Liner*, *Tavy*, and *Tamer*. It is of a ſharp, but healthful Air, generally very Hilly, conſiſting ordinarily of *Rocks* and *Shelves*, but cruſted over with a ſhallow Earth, and more inclined to ſterility than fertility; but the parts towards the *Sea*, and the encloſures about the *Towns*, through the induſtry of the Husbandman are more fertil, bearing good crops, and feeding ſtore of Cattle. *Cornwal* deſcribed.

It affordeth great ſtore of game both for the *Hawk* and *Hound*; and its *Seas* and *Rivers*, plenty of ſeveral ſorts of *Fiſh* and *Fowl*, as well thoſe common to other Counties, as appropriate to themſelves. In the bowels of the Earth are Quarries of ſundry ſorts of uſeful *Stones* and *Slates* for building; alſo *Copper*, precious Stones, called *Corniſh Diamonds*, but chiefly *Tin*, which is here found in great plenty to the great inrichment of the Inhabitants, who, as to their Names and Language hold great affinity with the *Welſh*.

The ancient Inhabitants were known to the *Romans* by the name of the *Danmonii's*, and became afterwards part of the Kingdom of the *Weſt Saxons*.

This County is ſevered into 9 *Hundreds*, in which are numbred 161 *Pariſh Churches*, and hath intercourſe of Traffick with 23 *Market Towns*.

Launſton, ſeated on an eminency, and on a branch of the *Tamer*, a large *Town Corporate*, governed by a *Major* and his Brethren, and amongſt other Immunities electeth *Parliament men*; 'tis a place well inhabited, enjoyeth a good Trade, and the more as being the place where the *Aſſizes* are held; and its Market, which is on *Saturdays*, is well ſerved with Proviſions. Adjoyning to this Town is an ancient *Caſtle*, ſeated on a great eminency, and encompaſſed at the top with a treble Wall, where there was a Colledge of *Canons* and *Secular Prieſts*. The lower part now compriſeth a decayed *Chappel*, a large *Hall*, and a place made uſe of for the Common Goal. *Launſton.*

Liskerd, a *Town Corporate*, governed by a *Major*, 8 *Magiſtrates*, a *Recorder*, and other *ſub-Officers*, electeth *Parliament men*, hath an eminent Free *School*, and is a large, well inhabited and frequented Town, whoſe Market on *Saturdays* is well ſerved with *Corn* and all ſorts of Proviſions, and the Inhabitants drive a conſiderable trade for *Tarn* every Market-day. *Liskerd.*

Bodman, ſeated in a bottom between two high Hills, which render it not very healthful, eſpecially to new Comers; it is large, an indifferent well built and inhabited *Town Corporate*, governed by a *Major*, ſendeth *Burgeſſes* to Parliament, and hath a great Market on *Saturdays* for Corn and Proviſions. *Bodman.*

Liſthyel, or *Liſtwithiel*, ſeated on the *Foy*, not far from its fall into *Foy-havien*, which formerly brought up Veſſels to the Town; but its Channel being choaked up (by reaſon of the *Tin-Mines*) is a great obſtruction to its Trade. It is a *Town Corporate*, governed by a *Major* and his Brethren, electeth *Parliament men*, hath its part in the coynage of the *Tin*; (but the Goal for the whole *Stannery*, and the keeping of the *Courts* is only here kept) and hath a ſmall Market on *Fridays*. *Liſthyel.*

Foy, ſo called from its Haven, or Arm of the Sea on which it is ſeated, being ſtrongly fortified at the entrance of the Haven with *Block-houſes*, and in times paſt was a place very conſiderable for Shipping and Traffick; its Market, which is on *Saturdays*, is very well ſerved with Corn and Proviſions. *Foy.*

Weſt-Looe, ſeated on a navigable Creek, over which it hath a fair Bridge, which leadeth to *Eaſt-Looe*, more commodiouſly ſeated, where there is an indifferent good Market on *Saturdays*. They are both *Towns Corporate*, and ſend *Burgeſſes* to Parliament. The chief benefit ariſing to the Inhabitants of theſe Towns, is their *Fiſhing*. *Weſt-Looe.*

Saltaſh, ſeated on the deſcent of a ſteep Hill, a pretty large *Town Corporate*, conſiſting of 3 Streets, is governed by a *Major*, and 9 *Aldermen*, enjoyeth large Immunities, and ſendeth *Burgeſſes* to Parliament. Its Market is on *Saturdays*, *Saltaſh.*

which of late is much decaied to what it was; yet its Inhabitants gain well by their *Mault* and good *Beer*.

Not far from this Town is *Trematon Caſtle*, once a place of great note, in which is kept the *Trematon Court*, wherein all Cauſes within the ſaid Fee are tried; as alſo the Priſon.

Padſtow. *Padſtow*, a Sea-Port Town, of ſome Trade by reaſon of its commodious ſcituation with *Ireland*, and were its Haven ſecure, it would be of greater account. It is a *Borough Town*, electing *Parliament men*, and hath a good Market for Corn and Proviſions on *Saturdays*.

Falmouth. *Falmouth*, at preſent a very large and well inhabited *Town Corporate*, governed by a *Major* and ſub-Officers, enjoyeth a good Trade, is well reſorted unto by *Shipping*, where there is a Key intended ſhortly to be built, and hath a very conſiderable Market for Corn and Proviſions on *Thurſdays*. The *Haven* whereon this Town is ſeated, and beareth its name, is very commodious for *Ships*, and ſo capacious that 100 Sail of *Ships* may ſafely ride at Anchor. And this Haven, with thoſe of *Milford* and *Plimouth*, are the chiefeſt in the Kingdom. On the Weſt ſide and at the very entrance of this Haven is *Pendennis Caſtle*, ſeated on a Hill ſo called; and on the other ſide, (but of a lower ſcituation) is St. *Moze* or *Maudit*, both which are a great ſecurity to the Coaſt and Haven.

Truro. *Truro*, ſeated on a branch of *Falmouth-haven*, at preſent the head Town in the County, being a fair, large, well inhabited and traded *Borough Town*, priviledged with a *Majoralty*, ſendeth *Burgeſſes* to Parliament, hath the coynage of the *Tin*, is a place where the Weſtern Seſſions are held, and its Markets on *Wedneſdays* and *Saturdays* are well ſerved with Proviſions, &c.

Penrin. *Penrin*, ſeated alſo on a Creek of *Falmouth-haven*, a very conſiderable *Town Corporate*, electing *Parliament men*, and hath weekly 3 Markets, *viz.* on *Wedneſdays*, *Fridays* and *Saturdays* for Corn, and on *Saturdays* for Proviſions.

Helſton. *Helſton*, ſeated on the *Lowe*, between which and the *Sea* there is a great breach or bar of Sand. It is a well inhabited and frequented *Town Corporate*, governed by a *Major* and *Aldermen*, electeth *Parliament men*, and its Market on *Saturdays* is well ſerved with Proviſions, and the two Markets before *Chriſtmas* are ſo great, that they may be reckoned as Fairs.

Near this Town is *Godolphin-Hill*, well known for its rich *Tin Mines*.

Penzance. *Penzance*, ſeated on *Monts-bay*, and in an Inlet thereof; a very good traded Town, and hath a conſiderable Market for all Proviſions, eſpecially *Fiſh*, on *Thurſdays*.

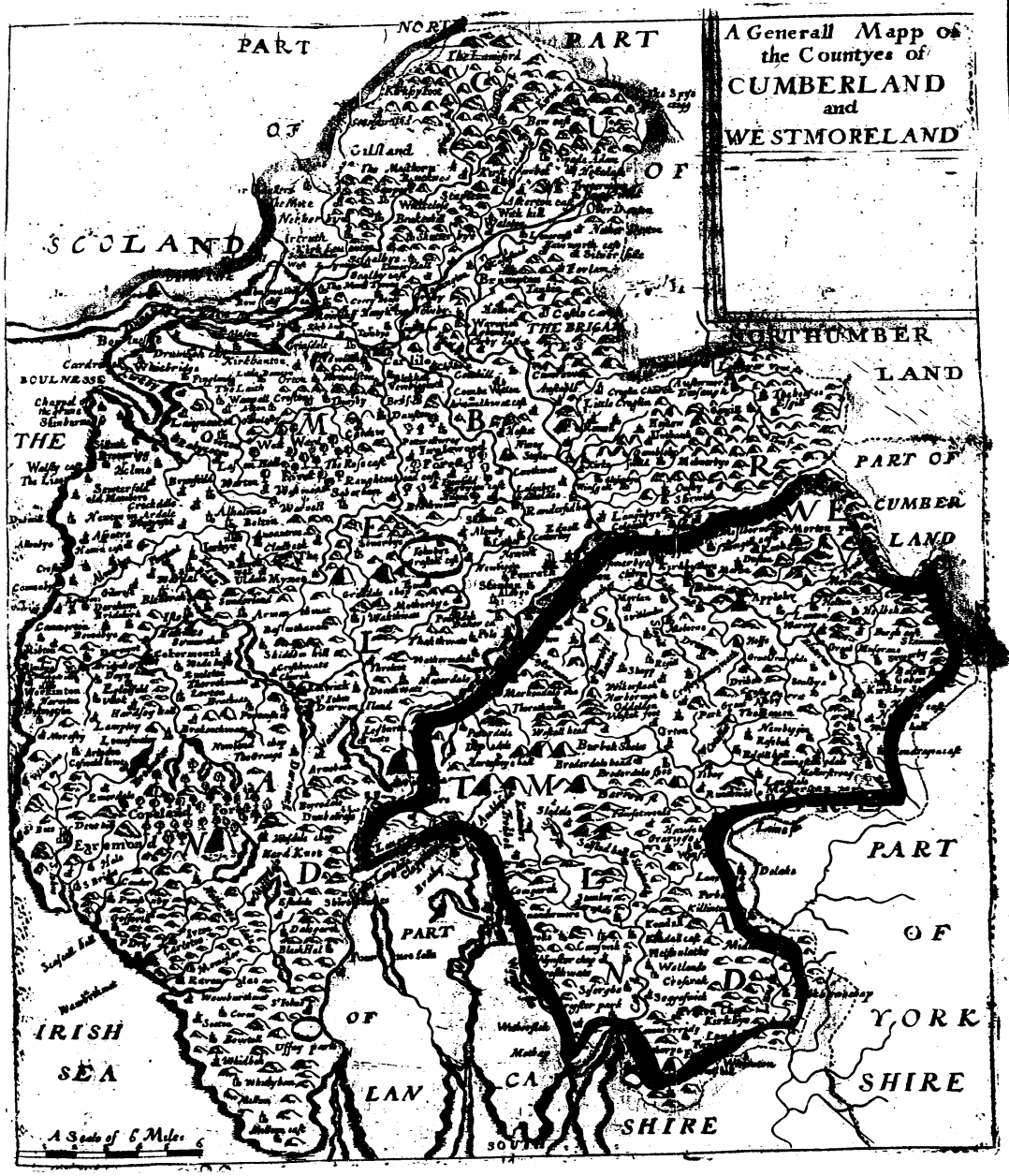
St. Ives. *St. Ives*, or *St. Ithes*, ſeated on an open Bay ſo called, chiefly frequented by *Fiſhermen*, for the taking of *Pilchards* and other Fiſh, which are here plentifully caught. It is a *Town Corporate*, governed by a *Major*, a *Juſtice*, and 12 *Aldermen*, ſendeth *Burgeſſes* to Parliament, and hath 2 Markets weekly, *viz.* on *Wedneſdays* and *Saturdays*.

It is obſerved that Men live here to a very great Age, and are ſtronger, hardy, and addicted to wreſtling, pitching the Bar, and other boyſterous ſports, more than any other *Engliſh men*.

By *Helford* is a great Rock lying upon the ground, the top whereof is hollow and filled with water, which ebbs and flows as the Sea doth. There is a very great Rock in this Shire called *Mainamber*, which reſts upon other ſmaller Rocks, which with the puſh of a finger may be moved; but cannot be moved out of its place by all the Art men can uſe.

County of *Cumberland* deſcribed. *CUMBERLAND*, a County far engaged Northwards, is very Mountainous, and much inclined to ſterility, yet not without many fertil Valleys, both for Tillage and Paſturage. It hath an Air very ſharp, and would be more, were it not for the high Hills that break off the Northern and Weſtern Storms. In the bowels of the Earth are rich Mines of *Copper* in great plenty; alſo thoſe of *Iron*, *Lead*, *Black-lead*, *Coal*, and ſome of *Silver*: and the *Sea*, and large *Lakes* and *Meers*, plentifully furniſh the Inhabitants with *Fiſh* and *Fowl*.

And



And beſides theſe Commodities this County produceth ſeveral Manufactures, amongſt which, heretofore *Fuſtians* and now *Linnen-cloth* and courſe *Broad-cloths* in great plenty. The Mountains of moſt note are *Black-houm*, *Hard-knot*, *Wrey-noſe*, *Skiddow*, and *Croſsfell*, &c. It is well watered with *Rivers*, and hath many *Lakes* and *Meers*.

This Shire of all others in *England* ſheweth the moſt *Roman* Antiquities, for being in the utmoſt limits of their poſſeſſions it was always ſecured by their Garriſons, and defended by that admirable Wall called the *Pitts Wall*, which ran from Sea to Sea about 100 miles, and was 8 foot broad and 12 foot high, and having at every 1000 paces a Watch-Tower erected, in which Souldiers were kept; and on this Wall grows the *Vulnerary Plant*. And being thus in the confines of *Scotland*, it was exceedingly ſtrengthned with *Caſtles*, having about 25 publick ones, beſides the Houſes of the *Nobility* and *Gentry*, which were generally built Caſtle-wiſe.

It is ſevered into 5 *Waads*, in which are 58 *Pariſh Churches*, beſides divers *Chappels* of *Eaſe*, and hath 15 *Market Towns*.

Carliſle, a City of great antiquity, and no leſs pleaſantly than commodiouſly ſeated at the influx or meeting of ſeveral Rivers, *viz.* the *Eden*, *Gauda*, and *Petterill*, which on all parts, except the South, encompaſs it; and for its further defence, it is fortified with a ſtrong and large *Caſtle* and *Citadel*, and fenced about with a ſtrong Wall, firſt built by *Egfrid* King of *Northumberland*, which was defaced by the *Danes*, and again rebuilt by King *Rufus*. Its Houſes are fair and well built, is beautified with a *Cathedral Church* of curious workmanſhip, it enjoyeth ſeveral Immunities, ſendeth *Burgeſſes* to Parliament, is governed by a *Major*, 12 *Aldermen*, 2 *Bailiffs*, and other ſub-Officers. It is a place well inhabited, and traded unto chiefly for *Fuſtians*; and its Market, which is on *Saturdays*, is very conſiderable for *Corn*, *Wool*, *Proviſions*, and ſeveral Country Commodities. *Carliſle.*

Cockermouth, ſeated between the *Derwent* and the *Coker*, which almoſt encompaſs it, over which are two fair *Stone-Bridges*, and between two Hills, upon one of which ſtandeth the *Church*, a fair building, and upon the other a ſpacious and ſtately *Caſtle*. It is a well inhabited *Borough Town*, graced with fair Buildings, enjoyeth a good Trade, eſpecially for courſe *Broad-cloths* here made, hath the election of *Parliament men*, and its Market, which is on *Mondays*, is eſteemed the beſt in the County for Corn, next to *Perith*. Here is a Cuſtom at their Fairs, holden at *Whitſontide* and *Martlemaſs* for the hiring of Servants, to which end all ſuch that want Servants, or Services, do hither come; the like is obſerved at *Perith*, and moſt of the Market-Towns in the County. *Cockermouth.*

Whithaven, ſeated on a Creek of the *Sea*, indifferent commodious for *Shipping*, which makes it to be well inhabited and frequented by Tradeſmen, eſpecially by Fiſhermen, and thoſe that are related to Sea-Affairs, who drive a good Trade to *Ireland*, *Scotland*, *Cheſter*, *Briſtol*, and other parts, having a *Cuſtom-houſe* and ſeveral *Veſſels* belonging to the Town, whoſe chief Trade is for *Salt* and *Coals*, here plentifully digged up. Its Market is kept *Thurſdays*. *Whithaven.*

Ravenglaſs, a well built Maritim Town, couched betwixt the Rivers *Irt*, *Eſk*, and *Mite*, with which the Sea doth encompaſs 3 parts of it, and is a good road for *Shipping*, which makes it to be a place of ſome Trade, and hath a Market on *Saturdays*. *Ravenglaſs.*

Keſwick, ſeated in a Valley, hemmed in with Hills and the Mountains called *Derwent Fells*, wherein are good *Copper-Mines*; and not far from the Town is dug up *Black-Lead*, or *Wadd*, in great plenty. The Town was formerly of greater account than now it is, when the Mineral-men had here their *Smelting-houſes*, being at preſent not very conſiderable. It hath a Market on *Saturdays*, chiefly for *Meal*, *Fleſh*, *Butter*, and *Cheeſe*. *Keſwick.*

Perith, ſeated on a Hill called *Perith Fell*, and near the Rivers *Eimont* and *Lowther*; a large, well built and inhabited Town, eſteemed the ſecond in the County, although neither a *Borough* nor *Town Corporate*; it is adorned with *Perith.*

a fair Church and a large Market-place, which every *Tuesday* is very much resorted unto, being considerable for *Corn*, *living Cattle*, divers Commodities and all sorts of Provisions in great plenty.

Derbyshire described.

DERBYSHIRE, a Midland County, but inclined towards the North, which makes it to be of a sharp Air, especially upon the *Peak* Mountains. The Soil is generally fertil, chiefly the South and East parts, which for the most part are enclosed and improved, yielding good *Corn* and *Grass*, and hath also store of *Coal* and *Iron-stone*. The North and West parts are very *hilly* and *stony*, and not so fertil, except in *Lead-Oar*, in which it much abounds, yet not without some rich *Valleys*; and on the *Hills* are bred good (though not large) *Sheep* in great abundance. For *Fuel*, it is not beholding to *Wood*, having such great plenty of *Coal*, that it supplies the defects of divers neighbouring Counties.

It is well watered with Rivers, *viz.* the *Trent*, *Derwent*, *Dove*, and *Wye*, which are the chief, and are passed over by about 21 *Stone-bridges*, some of which are of considerable note; as *Burton* over the *Trent*, sustained by 35 large *Stone-Arches*; *Swarkston-bridge* over the same River, reputed near a mile long, but much of it is rather a Causway than a Bridge; *Monks-bridge* over the *Dove*, and St. *Marys-bridge*, at *Derby*, over the *Derwent*, which River severeth the County into East and West, and it is observed that on the East-side *Coal* is generally dug, and on the West, *Lead*.

The Inhabitants were the *Coritani* of the *Romans*, and was afterwards part of the Kingdom of the *Mercians*.

It is severed into 6 *Hundreds*, and contains 106 *Parish Churches*, besides several *Chappels of Ease*, and is traded unto by 9 *Market Towns*.

Derby.

Derby, well seated on the *Derwent*, over which it hath a goodly *Stone-bridge*; a Town of good Antiquity, and is at present a very large, populous, well frequented and rich *Borough Town*, numbring 5 *Parish Churches*, of which *All-Saints*, which is the chief, is a curious structure, and beautified within with several Monuments. It is a *Borough Town*, electing *Parliament men*, is honoured with the Title of an *Earldom*, enjoyeth ample Immunities, is governed by a *Major*, 9 *Aldermen*, 14 *Brethren*, 14 *Common-Council*, a *Recorder*, *Town-Clerk*, &c. is well traded unto, especially for *Barley*, which they make into *Mault*, which finds good vent, and its Market, which is on *Fridays*, is very considerable for *Cattle*, *Corn*, and all sorts of Provisions, besides a small Market on *Wednesdays* and *Saturdays*. Here is lately built a fair *Hall* of *Free-stone* at the Counties charge, where the *Assizes* are constantly kept.

Chesterfield.

Chesterfield, pleasantly seated between two small Rivers, and in a good Soil, a *Borough Town* of great antiquity, is dignified with an *Earldom*, enjoyeth large Immunities, is governed by a *Major*, 6 *Aldermen*, a *Recorder*, 6 *Brethren*, 12 *Counsellors*, &c. and hath weekly two Markets on *Tuesdays* and *Saturdays*, which are very considerable for *Corn*, *Lead*, and most Country Commodities.

Wicksworth.

Wicksworth, seated in a Valley, a pretty large and populous Town, beautified with a fair *Church*, hath a *Free-School* and *Alms-houses*, and its Market on *Tuesdays* is well served with Provisions and *Apples*, especially for *Lead*, where the Merchants have their meetings for the Sale thereof.

Bakewell.

Bakewell, seated amongst *Hills* and on the banks of the *Wye*, an indifferent large Town, and hath a good Market on *Mondays* for *Lead* and Provisions.

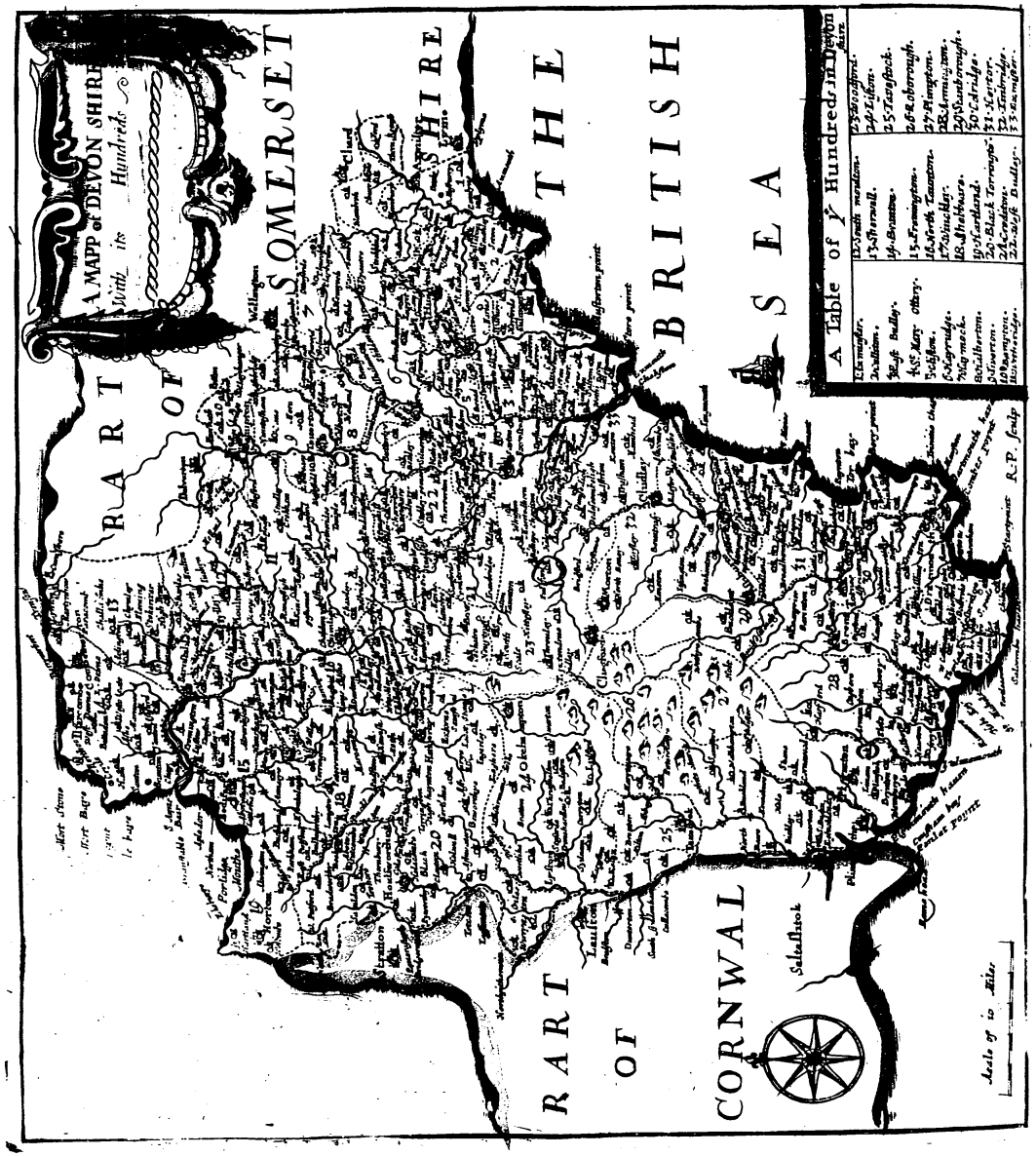
In the *Peak Forest* is a Well that ebbs and flows 4 times in one hour, keeping its exact Tides.

At *Buxton*, out of a Rock, in 24 foot compass, 9 Springs arise, of which 8 are warm and one cold; and the Waters are found very good to bath in, and for the Stomach.

And in this County is *Eldenhole*, being a Cave worthy of note.

DEVON-





DEVONSHIRE, of a sharp and healthful Air, very hilly and generally of an ungrateful Soil, without great pains and charges in manuring it; yet is it not without many fertil Valleys, and its sterility is recompenced by the rich Mines of *Tin* and *Lead*, as also by the great plenty of *Herrings*, *Pilchers*, and other Fish, taken on its *Sea-Coast*, from which the Inhabitants reap good profit; which, with its *Clothings*, *Saerges* and *Bone-lace*, are the chief Commodities of the County. *Devonshire described.*

The ancient Inhabitants were the *Danmonii*, and was afterwards part of the Kingdom of the *West-Saxons*.

It is very well watered with fresh Streams, as the *Ex*, *Tamar*, *Tave*, *Tawe*, *Pline*, *Dart*, *Turridge*, *Tinge*, *Plime*, *Culme*, and *Ottery*, which are found very advantagious to the Inhabitants.

It is divided into 33 *Hundreds*, in which are 394 *Parishes*; and for the accommodation of its Inhabitants, hath about 30 *Market Towns*.

Exeter, a fair, sweet and well compacted City, of great Antiquity, and no less pleasantly than commodiously seated on the top of an easie Ascent, and on the *Ex* (whence it took its name) over which it hath a fair *Stone-bridge*. 'Tis a place of a good largeness, containing within its Wall and Ditches, about a mile and half in circuit, in which and in its Suburbs (which are large) are numbred 15 *Parish Churches* besides its *Cathedral* or *Minster*, founded by King *Æthelstan*, a fair and beautiful structure. It enjoyeth a considerable Trade, being much inhabited and resorted unto by Merchants and Tradesmen, having several *Ships* and *Vessels* belonging unto them, and is in a flourishing condition, enjoying ample Immunities, sendeth *Burgesses* to Parliament, is honoured with the Title of an *Earldom*, is governed by a *Major*, 24 *Aldermen* or *Brethren*, a *Recorder* and other sub-Officers, and hath two very considerable Markets weekly, *viz.* on *Wednesdays* and *Fridays* for Provisions, and *Saerges* in great abundance. *Exeter.*

Plymouth, seated on the *Plime*, and near the *Tamer*, at both their Influxes into the *Sea*, which from a poor Fishing-Village is become a very fair, large, well inhabited and frequented Town, resembling rather a City than a Town, although it hath but two *Parish Churches*; 'tis a place of great importance by reason of its commodious Haven and excellent Port, which doth occasion it to be so well resorted unto by most Ships both outward and inward bound, and is of great strength, as well by Nature as Art, being defended by a strong Fort, a Cittadel, and other Fortifications. It is a *Borough* and *Town Corporate*, governed by a *Major*, *Aldermen*, and *Common Council*, hath the election of *Parliament men*, enjoyeth a great Trade for most Commodities, and its Markets on *Mondays* and *Thursdays* are extraordinary well served with all sorts of Provisions, as also have living Cattle. *Plymouth.*

Dertmouth, seated on the *Dert*, near its fall into the Sea, where it hath a commodious Haven; a large, well inhabited, frequented and traded Port-Town, containing 3 *Parish Churches*, and its Market on *Fridays* is very well served with Provisions. 'Tis an ancient *Town Corporate*, is governed by a *Major* and his *Brethren*, and amongst its Immunities sendeth *Burgesses* to Parliament. *Dertmouth.*

Totnes, seated on the *Dert*, and on the descent of a Hill; a Town of great antiquity, and of greater account than now it is; yet doth it retain several of its Immunities, sendeth *Burgesses* to Parliament, and is governed by a *Major* and his *Brethren*. The Town is large and hath a very great Market on *Saturdays* for all live Cattle, *Corn*, *Mault*, and Provisions both *Flesh* and *Fish*. *Totnes.*

Ashburton, seated in a rich Soil under the *Moor*; a large *Borough Town*, composed of several Streets, is beautified with a fair *Church*, electeth *Parliament men*, and hath a very good Market for *Corn*, *Cattle*, *Sheep*, and *Provisions* on *Saturdays*. *Ashburton.*

Okehampton, seated betwixt the River *Okement* and a branch thereof; a *Borough Town*, which electeth *Parliament men*, is governed by a *Major*, *Burgesses*, *Recorder*, and sub-Officers, and hath a very good Market for *Corn*, *Provisions* and *Yarn*, on *Saturdays*. *Okehampton.*

Bedford,

Bidiford. *Bediford*, commodiously seated for the reception of Vessels on the *Towridge*, over which it hath a large *Stone-bridge* of Arched-work; consisting of 24 *Peers*. 'Tis a large, well inhabited and traded Town, and its Market on *Tuesdays* is well served with Corn and Provisions.

Barnstable. *Barnstable*, commodiously seated on the *Tawe*, over which it hath a large *Stone-bridge*. 'Tis a fine *Borough Town*, which electeth *Parliament men*, is a place of some Trade, and hath a considerable Market on *Fridays* for Cattle, Corn, and Provisions.

South-Moulton. *South-Moulton*, seated on the *Moul*, which falleth into the *Tawe*, a pretty good Town, and hath a considerable Market on *Saturdays* for Corn and Provisions.

Tiverton. *Tiverton*, seated on the *Ex*, over which it hath a fair *Stone-bridge*, where the *Lemon* falleth in. It is a large *Town Corporate*, electing *Parliament men*, is governed by a *Major*, 12 *Burgesses*, and other sub-Officers; is a place of good account for its Clothings here made, and hath a Market on *Tuesdays*, which is very well served with Provisions, &c.

Crediton. *Crediton*, seated betwixt two Hills, and in a rich Soil, once the See of a Bishop, till removed to *Exeter*. It is a place of a pretty largeness, being composed of two Towns, the one called *East Town* and the other *West*, is beautified with a very fair Church built *Cathedral-wise*, to which belongeth a *Free School*, which hath its Governours; it is well inhabited, enjoyeth a good Trade for its *Serges* here made, and its Markets on *Saturdays*, for Corn and Provisions, is esteemed one of the best in the County.

Dorsetshire described. *DORSETSHIRE*, of a healthful Air and fruitful Soil; the Northern part (which is severed from the South almost by a continual ridge of high Hills) is somewhat flat, abounding with rich Pastures, and is well watered with fresh Streams, which hath induced many of the Gentry to settle here, although the Winter season is very dirty and troublesom to the Traveller; which inconvenience the South part is freed from, as consisting of Hills and Downs, which are overspread with flocks of *Sheep*; yet it is not without divers Valleys, in which (for the most part) the Towns and Gentlemens-Houses are seated.

It is well watered with Rivers, the chief of which are the *Frome* and the *Stower*, which, with the *Sea*, do plentifully furnish the Inhabitants with *Fish* and *Fowl*.

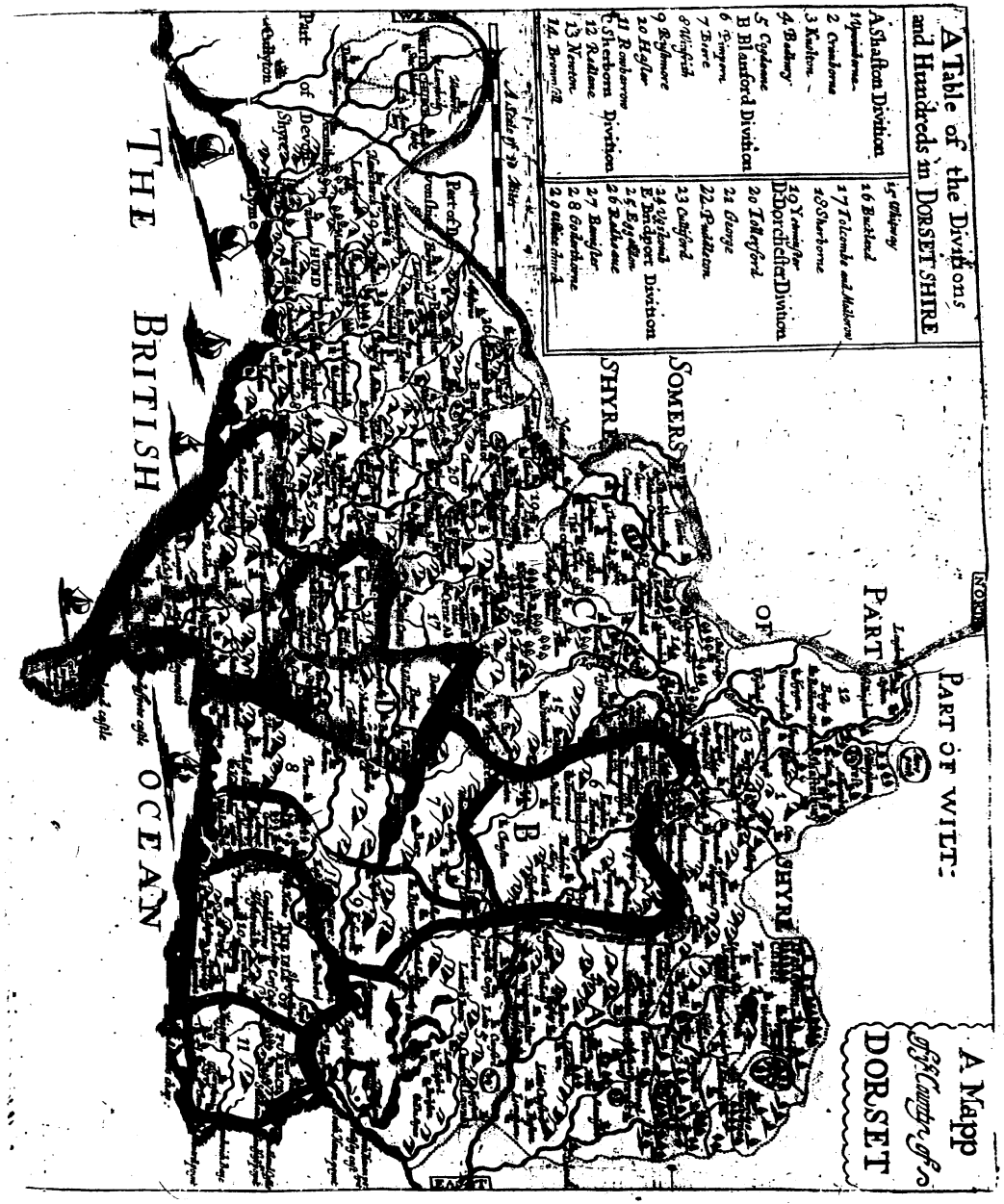
The chief Commodities that this County produceth are *Cattle*, *Sheep*, *Corn*, *Wool*, of which the Clothiers make *Kersies*; *Wood*, *Hemp*, *Tobacco-clay*, *Free-stones*, &c. And for the better support of their Traffick, they have several good Haven-Towns, as *Lime*, *Weymouth*, *Pool*, &c.

Its Inhabitants, known to the *Romans*, were the *Durotriges*; and when the *Saxons* became Masters of the Island, it became part of the Kingdom of the *West Saxons*.

It is divided into 5 *Divisions*, and those into 29 *Hundreds*, in which are seated 248 *Parish Churches*, and for accommodation of its Inhabitants, hath Traffick with 18 or 19 *Market Towns*.

Dorchester. *Dorchester*, a Town of great antiquity, and well known to the *Romans*, where they had their station; it is pleasantly seated on the South-side of the *Frome*, and on the *Roman* Causway called *Foss-way*, at present the chief in the County (though not so large as in former time, as appears by the circuit of its then Walls, first thrown down by the *Danes*) being neatly compacted with well built Houses, hath 3 fair Streets and as many *Parish Churches*, hath an eminent *Free School* and an *Alms-house*. 'Tis a *Town Corporate*, governed by 2 *Bayliffs*, 8 *Aldermen*, a *Recorder*, and other sub-Officers, electeth *Parliament men*, and giveth title to the Right Honourable *Pierrepont*, Marquess of *Dorchester*, &c. Its Inhabitants gain well by *Clothing* and other Merchandize, and its Market on *Saturdays* is very considerable for *Corn*, *Flesh*, *Cattle*, *Sheep*, and Country Commodities, usually sold in great Markets.

Weymouth,



Weymouth, ſeated on the *Wey* at its influx into the Sea, oppoſite to which, on the other ſide of the River, ſtandeth *Melcombe*, or *Melcomb-Regis*; but joyned together by a fair *Timber-bridge*; which Towns are now incorporated into one body, and governed by a *Major*, *Aldermen*, and other ſub Officers; yet each of them ſtill ſend 2 *Burgeſſes* to Parliament. *Weymouth* at preſent hath but one chief Street, which for a good ſpace lieth open to the Sea, and on the bank thereof riſeth a Hill of ſuch ſteepneſs, that the Inhabitants are forced to climb up to their Chappel by 60 ſteps of Stone, from whence there is a fair proſpect of the Town and Haven, which lieth under it. *Melcombe*, as ſeated on a flat, much ſurpaſſeth *Weymouth* for conveniency of ſcituation, affording room for Buildings, hath a good Market-place, good Streets and Yards for their Merchandize, which hath invited moſt of the Merchants to reſide here; and theſe Towns thus united gain well by Traffick into *Newfoundland*, *France*, and elſewhere; and their Markets, which are on *Tueſdays* and *Fridays*, are well provided with all neceſſaries and proviſions. *Weymouth.*

Not far from *Weymouth* is the Iſle of *Portland*, or rather a *Peninſula*, ſo made by the *Beech*, which runneth from *Abbotsbury*. It is a place of great ſtrength, as well by nature as art, being encompaſſed with inacceſſible Rocks, except at the place of Landing, where there is a ſtrong Caſtle called *Portland Caſtle*; and almoſt oppoſite to it on the Land-ſide towards *Weymouth* is another called *Sandfoot Caſtle*, which two command all the Ships that paſs into the Road. The whole Iſle, when got to the top of theſe craggy Rocks, ſheweth it ſelf in a flat, and is in compaſs about 7 miles. The ground is very good for Corn, and indifferent for Paſturage; it affordeth excellent Quarries of *Free-ſtone* for building, but is exceeding deſtitute of *Wood* and other Fuel. On the South-ſide ſtandeth the only Church in the Iſle, which is waſhed by the Sea-waves. And here *Portland-race* ſheweth it ſelf. *Portland Iſle.*

Lime, or *Lime-Regis*, of great antiquity, ſeated on the banks of the Sea, a well known Haven, *Borough* and *Town Corporate*, governed by a *Major* and other ſub-Officers, enjoyeth divers Immunities, and electeth *Parliament men*. The Town is large and built on both ſides of the River *Lime*, but joyned together by a Bridge. It enjoyeth a good trade, and its Markets are well frequented. *Lime.*

Cerne-Abbas, once famous for its rich and fair Abby near adjoyning; it is ſeated in a dry bottom, watered with a fine Rivulet, and in a Champain Country, affording great delight for the *Hawk* and *Hound*. The Town is but mean, yet hath it an eminent Market for *Corn*, *Sheep*, *Cattle*, &c. on *Wedneſdays*. *Cerne-Abbas.*

Sherborne, of good antiquity and fame, being formerly the See of a Biſhop; it is well ſeated and watered, and for largeneſs, fair Buildings, frequency of Inhabitants, and quick Markets, which are on *Thurſdays* and *Saturdays*, for *Corn*, *Fleſh*, *Sheep*, *Cattle*, and moſt Country Commodities, gives place to few or none in theſe parts. *Sherborne.*

Shaftsbury, or *Shafton*, ſeated on a great eminency, and very deſtitute of Water, which for ordinary uſes is brought on Horſes backs from the foot of the Hill. It once contained (when in its glory) 10 *Pariſh Churches*, which at preſent are reduced to 3, and is a fair, large, well built, inhabited and frequented Thoroughfare, *Borough* and *Major Town*, governed by a *Major*, 12 *Aldermen*, &c. electeth *Parliament men*, is honoured with the title of an *Earldom*, and hath a very conſiderable Market on *Saturdays* for *Corn*, *Fleſh*, *Cattle*, and moſt Commodities. *Shaftsbury.*

Blandford, a fair, large and well compacted Town, ſeated on the *Stower*, over which it hath a Bridge which leadeth to St. *Mary Blanford*. It is well inhabited, enjoyeth a good Trade, and the rather as being neighboured by ſo many Gentry, and its Market on *Saturdays* is well provided with all things neceſſary, but chiefly with *Corn*, *Sheep* and *Cattle*. *Blandford.*

Pool, encloſed on all parts with the *Sea*, except on the North, where it admits entrance only by one Gate. A Town by reaſon of its commodious Haven, from a ſmall Village is become a very large *Town Corporate*, governed *Pool.*

by

by a *Major* and other ſub-Officers, electeth *Parliament men*, and hath two Markets weekly on *Mondays* and *Thurſdays*, which are indifferent well ſerved. In the Haven (contrary to all Ports in *England*) the Sea ebbs and flows four times in 24 hours.

Worham. *Worham*, eſteemed the ancienteſt *Borough Town* in the County, ſeated between the *Frome* and the *Biddle*, at their falling into *Luckford Lake*, where it had a good Harbour for Ships, and was a very conſiderable large place, containing ſeveral Churches, which are now reduced to 3; and its Haven being choaked up, doth much eclipſe its Trade. It is a *Town Corporate*, governed by a *Major*, &c. ſendeth *Burgeſſes* to Parliament, and hath an indifferent good Market on *Saturdays*.

Lulworth Caſtle. *Lulworth-Caſtle*, the Seat of *Hum. Weld* Eſquire, eſteemed one of the beſt Houſes in the County, as well for beauty and largeneſs, as for a pleaſant ſcituation and proſpect into the Sea.

Purbeck Iſle. The Iſle of *Purbeck*, or rather the *Peninſula*, ſo called, hath veins of *Marble* running under the Earth. It is about 10 miles in length and 5 in breadth; in which tract are ſeated divers Towns, amongſt which is *Corfe-Caſtle*, ſeated on a River, and in a barren Soil, between two Hills, upon one of which ſtandeth the Caſtle. It is an ancient *Borough Town*, governed by a *Major* and *Barons*, enjoyeth ample Immunities, electeth *Parliament men*, and hath a ſmall Market on *Thurſdays*.

County of Durham deſcribed. *DURHAM*, a Biſhoprick and County Palatine, of a ſharp and piercing Air, but through the plentifulneſs of *Sea-Coal* the Cold is not ſo offenſive unto the Inhabitants. It is of a different Soil, the Eaſtern part being Champain, the Southern moſt fertil and well inhabited, and the Weſtern, hilly, barren, and thin of Woods and Towns, but is recompenced by the ſtore of *Coals*, *Lead*, and *Iron-Mines*.

The ancient Inhabitants known to *Ptolomy* were the *Brigantes*, and in the time of the *Saxons* became part of the Kingdom of the *Northumbers*.

This County was formerly called St. *Cuthberts Patrimony*, from one St. *Cuthbert*, who was Canoniz'd a Saint, and was born in this County.

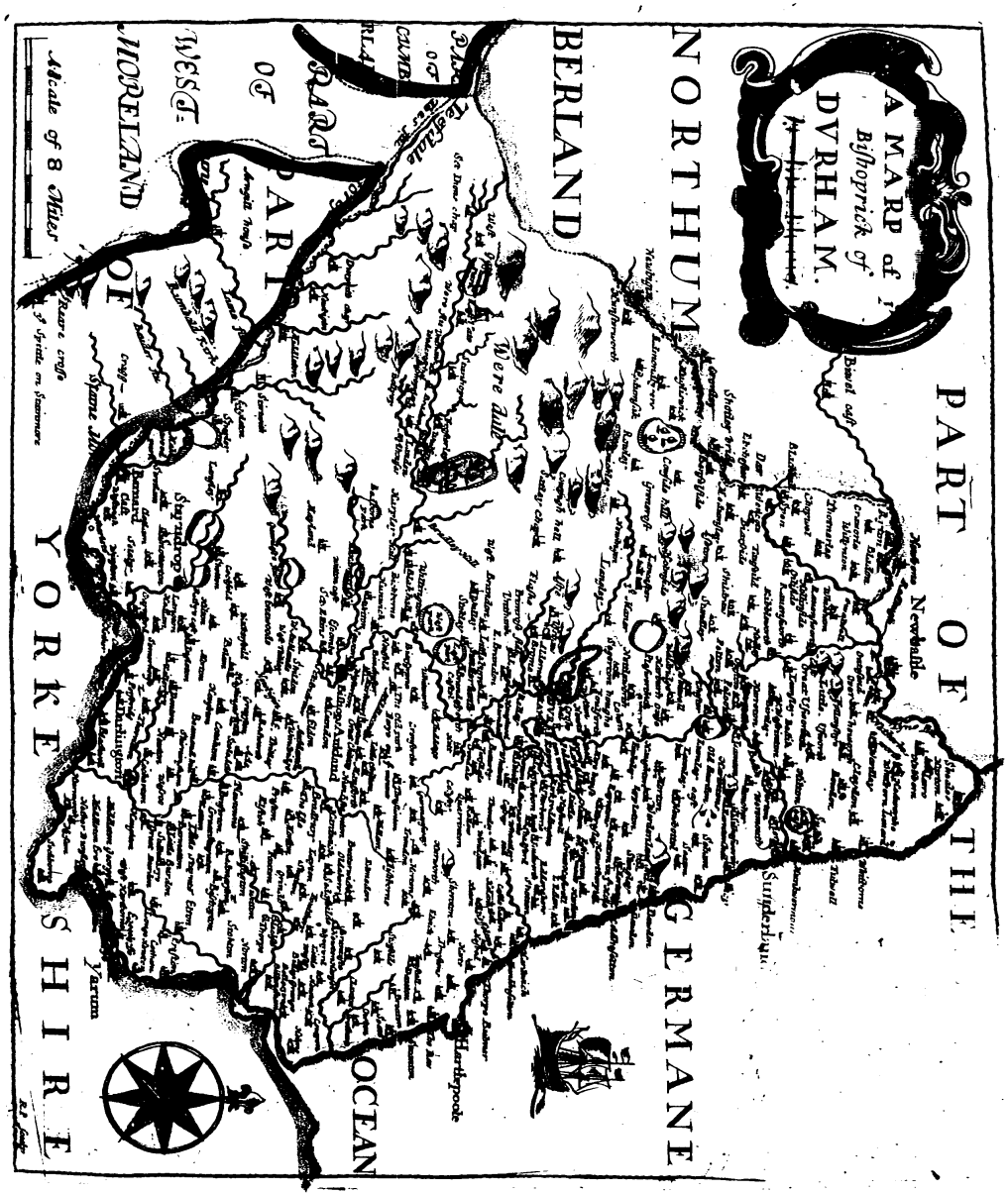
It is divided into 4 Wards, *viz.* thoſe of *Cheſter*, *Darweton*, *Eaſington*, and *Stockton*, in which are numbred 118 *Pariſhes*, and is traded unto by ſix Market Towns.

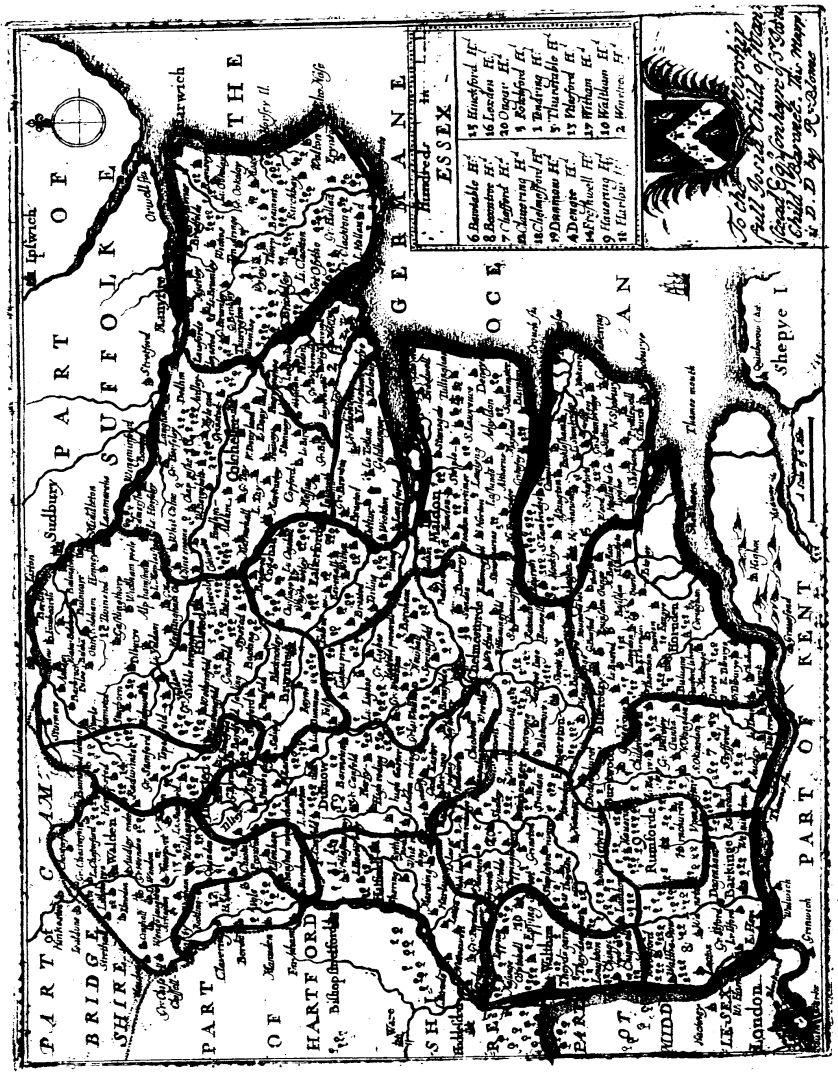
Durham. *Durham*, a City of good Antiquity, dignified with the See of a Biſhop, and ſends *Burgeſſes* to Parliament. It is no leſs pleaſantly than commodiouſly ſeated on an eaſie Aſcent, and almoſt encompaſſed by the River *Weare*, over which it hath two large and ſpacious *Stone-bridges*, which give entrance into it, which, with its Wall and ſpacious Caſtle, make it to be a place of good ſtrength. This City is fair and neatly compacted, containing 6 *Pariſh Churches*, beſides its Abby or Cathedral, dedicated to St. *Cuthbert*, a large ſtructure with a lofty Tower in the midſt, and two Spires at the Weſt-end, adjoyning to which are the Houſes for the *Dean* and *Prebends*. It is beautified with fair Buildings, hath well ordered Streets, a ſpacious Market-place, which is well reſorted unto every *Saturday*, is much inhabited and frequented by the Gentry of theſe parts, enjoyeth a good Trade, and its Shop-keepers are well furniſhed with Commodities.

Hartley-pool. *Hartley-pool*, commodiouſly ſeated on the Sea-ſhoar, (which encompaſſeth it, except towards the Weſt) and ſurrounded with Rocks and Hills. 'Tis an ancient *Town Corporate*, governed by a *Major* and ſub-Officers, is indifferent large, but poor, and its Market at preſent diſuſed; and were it not for its Harbour, which is good, it would be leſs frequented.

Biſhops-Aukland. *Biſhops-Aukland*, well ſeated on the ſide of a Hill, and between the River *Weare* and the Rivulet *Gaunleſs*; of chief note for its Caſtle, which is the *Biſhops Palace* for the Summer ſeaſon, now beautifully repaired. Its Market is on *Thurſdays*, which is indifferently well provided with Corn and Proviſions.

Dar-





Darlington, seated in a flat and on the *Skerne*, which falleth into the *Tees*; a Town of a good largeneſs, conſiſting of ſeveral Streets, hath a ſpacious Market-place, and its Market on *Mondays* is very conſiderable, and well furniſhed with *Corn*, *Cattle*, and all ſorts of Proviſions. *Darlington.*

At *Oxenhall*, near *Darlington*, are 3 deep Pits, called by the Inhabitants *Hell-Kettles*; which are ſaid to be made by an Earthquake.

Stockton, ſeated on the *Tees* near its fall into the Sea; a place of great trade for vending and exporting of *Corn* and *Butter* to *London*, and other parts. It is a *Town Corporate*, governed by a *Major* and ſub-Officers, is well inhabited, and by reaſon of its commodious Port it enjoyeth a good Trade. *Stockton.*

ESSEX, a County of a large extent, and very populous; is well watered with Rivers, beſides the Sea, which ſendeth forth ſeveral of her branches, as the *Stower*, *Blackwater*, (where thoſe excellent *Oyſters*, called *Walfleet*, are caught) *Crouch*, *Ley*, &c. The Soil may be eſteemed fertil, though in ſome places it is ſandy and barren; it is well clothed with *Wood*, hath variety of *Parks*, great plenty of *Fiſh* and *Fowl*; nor is there any want of other Proviſions: And for its Commodities affordeth *Cloths*, *Stuffs*, *Hops*, *Butter*, *Cheeſe*, *Gunpowder*, *Oyſters* and *Saffron*. County of *Eſſex* deſcribed.

It is ſevered into *Hundreds*, in which are ſeated 415 *Pariſh Churches*, and for the conveniency of its Inhabitants hath 21 Market Towns.

Colcheſter, a place of great antiquity, ſaid to be built by *Collus* the *Britiſh* Prince *An. Dom.* 124. and in former times of no leſs fame than largeneſs, numbring 15 *Pariſh Churches*, many of which are now reduced to ruin, with abundance of its Houſes. It is no leſs pleaſantly than commodiouſly ſeated on the *Colne*, which after about ſix miles courſe loſeth it ſelf in the Sea. It is governed by 2 *Bailiffs*, 12 *Aldermen*, who are clothed in Scarlet, a *Recorder*, with other ſub-Officers; it enjoyeth ſeveral Immunities, ſendeth *Burgeſſes* to Parliament, hath a Market on *Saturdays*, which is well ſerved with Proviſions, and its Inhabitants (many of which are *Dutch*, and have their Church for divine Worſhip) drive a good trade for *Sayes*, *Baies*, and other Draperies here made. It is alſo of ſome note for the great quantities of excellent *Oyſters* here taken. This place gave birth to *Lucius*, *Helena*, and *Conſtantine* the firſt Chriſtian King, Empreſs, and Emperour in the World. *Colcheſter.*

Harwich, a Haven, Sea-port, and *Borough Town*, which electeth *Parliament men*, is of great great ſtrength as well by nature as art. The Town is not large, but is well inhabited and frequented by thoſe that have relation to Sea-Affairs; and the rather by reaſon of its ſafe and commodious Haven, harbour for Ships and Veſſels to Anchor in, it being oft-times the ſtation of the *Navy Royal*, which (and for being the ready paſſage to *Holland*, where the *Pacquet-boats* are kept for that purpoſe) doth occaſion it to enjoy a good Trade; yet its Market on *Tueſdays* is not very conſiderable. *Harwich.*

About 4 miles Northwards from *Harwich* is *Horſey Iſle*; and about 2 miles further is the *Neſs*, a Promontory well known to Sea-men.

Maldon, a Town of great antiquity and repute in the time of the *Romans*, (as *Cambden* noteth) and was the Seat of *Cunobelin*, King of the *Trinobantes*. It is well ſeated on an Arm of the Sea, about 6 or 7 miles from the Main, before which lie ſmall Iſles called *Northey* and *Oſey*; the Town is large, having one Street about a mile in length, is well inhabited, enjoyeth a good trade, occaſioned by reaſon of the commodiouſneſs of its Haven; amongſt its Immunities electeth *Parliament men*, is governed by 2 *Bailiffs*, 6 *Aldermen*, 18 *Brethren*, a *Recorder*, *High Steward*, &c. and hath a very conſiderable Market on *Saturdays* for *Fleſh*, *Fiſh*, *Fowl*, and other Proviſions. *Maldon.*

Walden, or *Saffron-Walden*, ſeated on an Aſcent amongſt pleaſant Fields of *Saffron*; a large, fair, well inhabited and frequented *Town Corporate*, enjoying ſeveral Immunities, is governed by a *Treaſurer*, 2 *Chamberlains*, and the *Commonalty*, and hath a very conſiderable Market on *Saturdays*, for Corn and all ſorts of Proviſions. *Walden.*

Audley-end. Near unto this Town is that ſtately Houſe *Audley-end*, built by the Right Honourable *Tho. Howard*, Earl of *Suffolk*, then *Lord High Treaſurer* of *England*, which ſaid Houſe now belongeth to his Majeſty.

Chelmesford. *Chelmesford*, ſeated in the Road and between two Rivers, over which are Bridges for conveniency of paſſage. It is a fair, large and well frequented Town, where the *Aſſizes* are uſually kept, and hath a very great Market for Corn, Proviſions, &c. on *Fridays*.

Raleigh. *Raleigh*, a place of great antiquity, though not of largeneſs, and its Market which is on *Saturdays* is but ſmall.

Not far from this Town are the Iſles of *Wallop* and *Fowlneſs*, that is, the Promontory of *Fowls*, which hath a Church in it. Alſo *Canvey Iſle*, of a rich Soil, and feedeth good ſtore of *Sheep*.

Brentwood. *Brentwood*, ſeated on a Hill, and on the high Road; a place of good Antiquity, is well inhabited, and its Market on *Thurſdays* is well ſerved with Proviſions.

Rumford. *Rumford*, a large thoroughfare, well frequented and inhabited Town, ſeated in the Liberty of *Haverill*, which enjoyeth large Immunities, being an ancient retiring place of the Kings. This Town of *Rumford* is of note for its great Market on *Tueſdays* for living Cattle; but for Corn and Proviſions, which it is plentifully ſerved with, it hath a Market on *Wedneſdays*.

Waltham. *Waltham*, or *Waltham-Abby*, ſeated on the River *Leg*, where it formeth ſeveral *Eights*, or ſmall *Iſles*, and in a large Foreſt ſo called, well ſtored with *Deer* and other Game. It is a Town of ſome note, and hath a Market on *Tueſdays*.

Glocesterſhire deſcribed. GLOUCESTERSHIRE, a County of a healthful Air and fertil Soil both for *Corn* and *Paſturage*, yielding plenty of Corn, and feeding abundance of Cattle and great flocks of Sheep (eſpecially about *Coteſwold*) whoſe Wool is much eſteemed for its fineneſs.

The part lying Eaſtwards, called *Coteſwold*, riſeth up with Hills, and is for grazing; the middle part (which is watered with the *Severne*) lieth low, and maketh a moſt fertil Plain; and the Weſtern part, beyond the *Severne*, is overſpread with Wood and called *Dean Foreſt*, which affordeth excellent *Timber Trees* for the building of Ships, and great ſtore of *Coal* and *Iron-Mines*, where there are divers *Furnaces* and *Forges* for working the ſame. This Foreſt is of a large extent, being about 20 miles in length and 10 in breadth; within which tract of ground are numbred 3 *Hundreds*, 13 *Pariſh Churches*, 1 *Caſtle*, 1 *Abby*, 3 *Market Towns*, and 1 *Major Town*; and the *Common* thereof (beſides the *Purlieus* and *Abby-woods*) is ſaid to contain 24000 Acres of Ground.

The chief Commodities that this County produceth, are *Corn*, *Wool*, *Cloth*, *Iron*, *Steel*, *Wood* and *Timber*; alſo *Fruits* here had in ſuch great plenty, that the Highways and Lanes are beſet with *Apple*, *Pear*, and *Wallnut-trees*, which grow naturally without ingrafting.

It is well watered with Rivers, amongſt which are the *Lin*, *Trowd*, *Charne*, *Avon*, *Wye*, and *Severne*, which for broadneſs of Channel, ſwiftneſs of Stream, and plenty of *Salmon* and other excellent Fiſh, comes little ſhort of any River in *England*.

The ancient Inhabitants were the *Dobuni*, and in the time of the *Saxons* it became part of the Kingdom of the *Mercians*.

This County is divided into 30 *Hundreds*, in which are numbred 280 *Pariſh Churches*, and is traded unto by 25 *Market Towns*.

Briſtol. *Briſtol*, ſeated between the *Avon* and the *Frome*, which after a ſmall courſe fall into the *Severne*; the *Avon* dividing it into two parts, as the *Thames* doth *London* and *Southwark*, and are ſo joyned by a fair ſtone *Bridge*, on which are alſo ſtately Houſes. The greateſt part of this City is in this County, and the leaſt in *Somerſetſhire*, but it will owe ſubjection to neither, being an entire County incorporate of it ſelf, enjoying large Immunities, ſendeth *Burgeſſes* to Parliament, is governed by its peculiar Magiſtrates, as a *Maior*, *Court of Alder-*





Aldermen, 2 *Sheriffs*, and other ſub-Officers, and is dignified with the See of a *Biſhop* and the title of an *Earldom*, now inveſted in the perſon of the Right Honourable *George Digby*, Earl of *Briſtol*, &c. It is a City of a ſweet and delightful ſituation, and of far more beauty than antiquity, being adorned with many fair and well built Edifices; and its Streets ſo neatly ordered, by reaſon of the *Avon* that runneth through it, together with the common *Sinks* and *Sewers* under ground, that no filth is to be ſeen to annoy its Inhabitants. It is a City of a large extent, numbring 18 *Pariſh Churches* beſides its *Cathedral*, a fair ſtructure. It is begirt with a Wall, and further defended with Fortifications; its Port is good, and commodious for *Ships* of a conſiderable burthen, which doth occaſion it to be a place of a very conſiderable Trade, and to be well inhabited, and frequented by *Merchants* and *Tradeſmen*, inſomuch that next after *London* it may juſtly claim priority of all others in *England*; and for the accommodation of its Inhabitants, beſides its *Shambles*, its Markets on *Wedneſdays* and *Saturdays* are plentifully ſerved with all ſorts of Proviſions. It is of note for its *Briſtol-Stones*, taken out of St. *Vincents-Rock* near adjoyning.

Glouceſter, a City of good antiquity, and pleaſantly ſeated on an eaſie Aſcent, and on the banks of the *Severne*, over which it hath a fair *Stone-bridge*. 'Tis a City not very large, yet hath it for Divine worſhip 12 *Pariſh Churches*, beſides its *Abby* or *Cathedral*, dedicated to St. *Peter*, a fair and beautiful building, conſiſting of a continued *Window-work*, and hath large Cloyſters and an excellent Whiſpering-place. It is alſo beautified with a handſom *Colledge*, and many neat Buildings, being a place well inhabited and frequented, enjoying a good Trade; and its Markets on *Wedneſdays* and *Saturdays* are well furniſhed with all Proviſions, and very great for *Corn* and *Cattle*. This City is the See of a *Biſhop*, to which belongs a *Dean* and 6 *Prebends*; 'tis a County within it ſelf, enjoyeth large Immunities, ſendeth *Burgeſſes* to Parliament, and is governed by a *Major*, 2 *Sheriffs*, 12 *Aldermen*, a *Recorder*, with other ſub-Officers. *Glouceſter.*

Circeſter, or *Cirenceſter*, ſeated on the *Churn*, over which it hath a Bridge, and in the *Woulds* very commodious for Mills. 'Twas a City once large, and of great account in the time of the *Romans*; at preſent it is a good *Borough Town*, enjoying large Priviledges, and ſendeth *Burgeſſes* to Parliament, and hath weekly two conſiderable Markets, on *Mondays* chiefly for *Corn*, and on *Fridays* for *Wool*, *Yarn*, and Proviſions. *Circeſter.*

Tewksbury, commodiouſly ſeated on and between 3 Rivers, the *Severne*, *Avon*, and *Swilyat*, over which are as many Bridges; a fair, large, well inhabited and frequented *Borough* and *Town Corporate*, electing *Parliament men*; of good account for making of *Woollen-cloth*, and for the beſt *Muſtard* in *England*, and hath a very good Market on *Saturdays* for *Corn*, *Cattle*, and Proviſions. *Tewksbury.*

Stroud, ſeated on a River ſo called, over which it hath a Bridge, and on the banks of the ſaid River are placed abundance of *Fulling-Mills*. It is a well built Town, which is of chief note for making and dying of *Cloths*, and eſpecially for good *Scarlets*; and hath a good Market on *Fridays* for Proviſions and *Yarn*. *Stroud.*

Tedbury, an indifferent good Town, beautified with a fair *Market-houſe*; and its Market on *Wedneſdays*, for *Corn*, *Cattle*, *Cheeſe*, *Mault*, *Yarn*, *Wool*, *Proviſions*, and other Country Commodities, is eſteemed one of the beſt in theſe parts. *Tedbury.*

Barkley, a place of good antiquity, honoured with a *Barony*, and gives title to the Right Honourable Lord *Berkley*, &c. It is ſeated on a branch of the *Severne*, and hath an indifferent Market on *Tueſdays*. *Barkley.*

Durſley, ſeated on or near a branch of the *Severne*; a good Town, much inhabited by *Clothiers*, and hath a ſmall Market on *Thurſdays*. *Durſley.*

Chipping-Sodbury, ſeated in a bottom of the Downs, and in the Road; an indifferent good *Borough Town*, which hath a very great Market for *Cheeſe* on *Thurſdays*, and is alſo well ſerved with *Corn* and *Proviſions*. *Chipping-Sodbury.*

Hantshire described.

HANTSHIRE, of a fertil Soil for *Corn*, hath rich *Paſtures*, which feed ſtore of *Cattle*, is well cloſhed with *Wood*, affordeth plenty of *Iron*, which is here wrought from the Mines; alſo excellent *Hony*, and of their *Wool* they make abundance of *Cloths* and *Kerſies*.

Its Southern parts are waſhed with the *Sea*, and by reaſon of its ſeveral good Ports and Havens it is well reſorted and traded unto, affording moſt *Tranſmarine Commodities*,

The ancient Inhabitants known to the *Romans*, were the *Segontians* in the North part, and the *Belgæ* and the *Regni* in the South.

In this County is *New-Foreſt*, about 30 miles in compaſs, and a place which affordeth great variety of Game; within this tract of ground was formerly 36 *Pariſh Churches*, which with the Houſes thereto belonging were pulled down by command of *William* the *Conquerour*, that it might be a place for *wild Beaſts* to harbour in.

It is ſevered into 40 *Hundreds*, wherein are ſeated 253 *Pariſh Churches*, and is traded unto by 18 *Market Towns*, beſides thoſe in the Iſle of *Wight*, being part of this County, which I ſhall anon treat of.

Winchester.

Winchester, a City of great antiquity, and famous in the time of the *Romans*, *Saxons*, and *Normans*, it being the Sepulchre of divers of their *Kings* and *Queens*, and was of note in the time of the *Romans* for making the rich Embroideries for their *Emperours*. It is a place pleaſantly ſeated in a Valley betwixt Hills, and on the banks of a delightful River, which after about 10 miles courſe falleth into an Arm of the *Sea*, on which *Southampton* is ſeated. It is a fair City of about a mile and a half in circuit within its Walls, which gives entrance unto its Suburbs by 4 Gates; for Divine worſhip it hath five *Pariſh Churches* beſides its *Cathedral*, dedicated to the *Holy Trinity*, a large and beautiful ſtructure. It is garniſhed with good Buildings, amongſt which are the *Biſhops Palace*, the *Prebends houſes*, and the *Town-Hall*, where the *Aſſizes* and *Seſſions* for the County are kept. It is a place well inhabited and frequented, and its Markets, which are on *Wedneſdays* and *Saturdays*, are well provided with all ſorts of Proviſions, eſpecially that on *Saturdays*. It enjoyeth ſeveral Immunities, and ſendeth *Burgeſſes* to *Parliament*. Without the City, in the Suburbs, is a fair *Colledge* bearing the name of the City, having a *Wardan*, *Maſters*, and an *Uſher*, and is endowed with a liberal Maintenance.

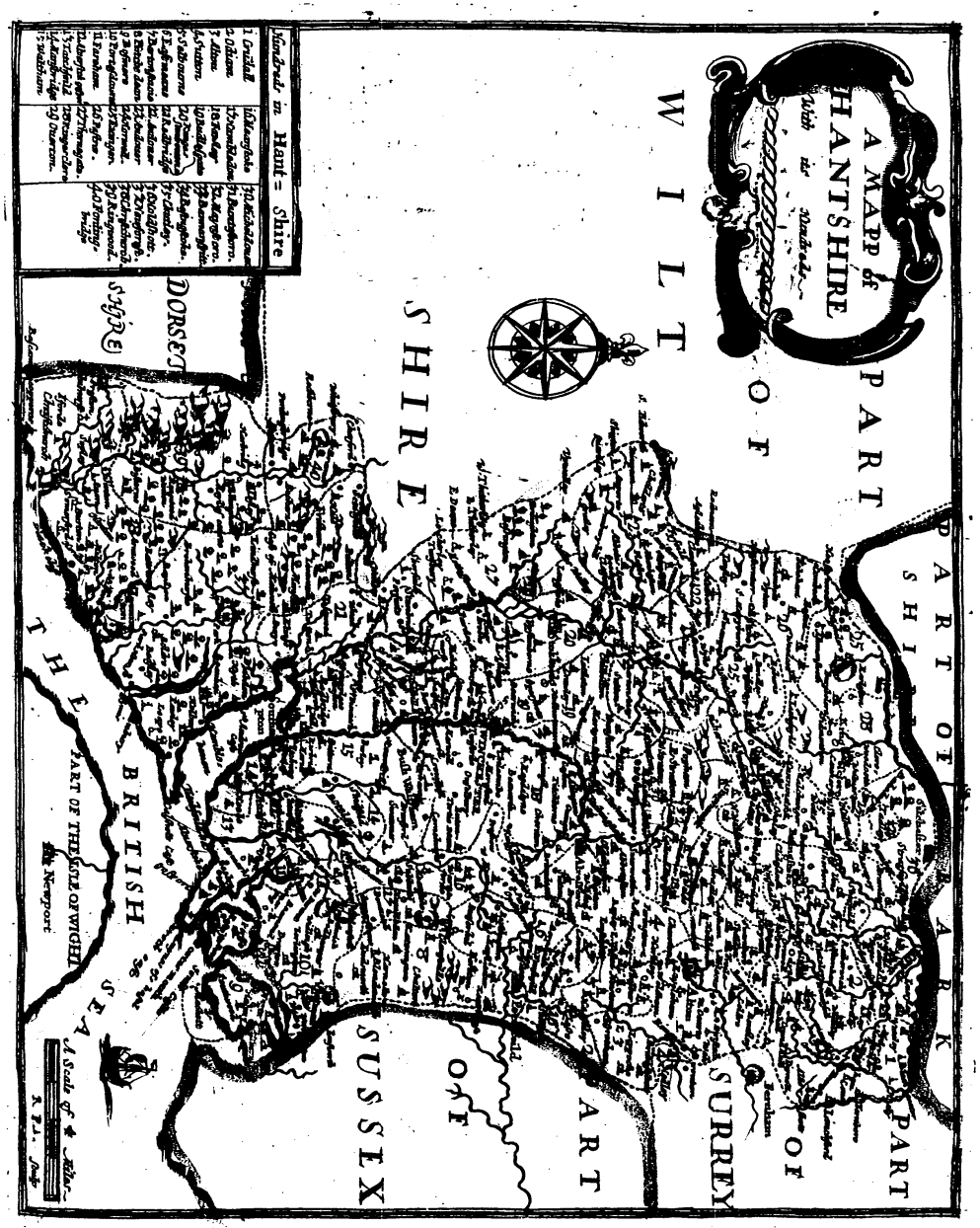
Near unto this City, pleaſantly ſeated on a fair River, is St. *Croſſes Hoſpital* for the relief of 12 Poor men called *Brothers*, having a *Maſter*, *Steward*, and ſuch Officers; and according to the Inſtitution of the Houſe, *Bread* and *Drink* is given to all Travellers that will require the ſame.

Southampton.

Southampton, commodiouſly ſeated on an Arm of the *Sea*, capable to receive Ships of a conſiderable burthen to its *Keys*, which are fair, and very convenient for the lading and unlading of Goods, by reaſon of which it is a place well inhabited by *Merchants* and *Shopkeepers*, who drive a good Trade. It is a large Town, numbring 5 *Pariſh Churches* beſides its *Hoſpital*, called *Gods-houſe*. It is garniſhed with well built Houſes, and is fenced about with a double Ditch and Walls, which gives entrance by 7 Gates. It is a Town and County of it ſelf, governed by a *Major*, *Bailiffs*, and *Burgeſſes*, enjoyeth large Immunities, ſendeth *Burgeſſes* to Parliament, is dignified with the title of an *Earldom*, and its Markets on *Tueſdays* and *Thurſdays* are not very great, except for Proviſions.

Portsmouth.

Portſmouth, at preſent one of the beſt Garriſons and Sea-port Towns in *England*, by reaſon of its commodious ſituation, which makes it to be exceedingly reſorted unto by *Shipping*, and is one of the uſual ſtations for the *Navy Royal*, where his Majeſty hath his *Store-houſes* and *Docks* for the building and equipping his *Ships*, which adds no ſmall benefit to the Town, which is large, well built, very populous, enjoyeth a good Trade, is well provided with all neceſſaries, and its Markets on *Thurſdays* and *Saturdays* are very conſiderable for Proviſions. This Town is ſeated in the Iſle of *Porſey*, ſo made by the Sea and its two Arms, which are joyned by a River. It is a Town





Town Corporate, sendeth *Burgesses* to Parliament; and being a place of such concernment, is exceedingly fortified with two *Castles* and other Fortifications. Here they make *Salt* of the *Salt-water*.

Basingstoke, seated on the Road, a great thorough-fare Town for the Western partt. It is a *Town Corporate*, governed by a *Major*, 7 *Aldermen*, as many *Burgesses*, a *high Steward*, a *Recorder*, &c. and the Market on *Wednesdays* is very good for Corn, especially *Barley*. *Basingstoke.*

Silchester, a place of great antiquity, and of a large extent, said to be the ancient City *Vindonum*, built by *Constantius* Son of *Constantine* the Great, and before it was destroyed by the *Danes*, was of a large extent. Here the warlike *Arthur* was Crowned. *Silchester.*

The Isle of *WIGHT*, part of *Hantshire*, of which it may seem to be a part; for from *Hurst* Castle, which is seated on a Languet of Land which runneth forth into the *Sea*; it is not above a mile to the Western part of this Isle, and from *Portsmouth* not above six. And its Southern part lieth opposite to *France*, from which it is distant about 35 Leagues. *Isle of Wight.*

The form of this Isle is long, being about 20 miles in length, and where broadest 12, and hath about 60 miles of Sea-Coast.

It is blest with a healthful Air, and is of a fertil Soil both for *Corn* and *Pasture*, and hath plenty of *Conies*, *Hares*, *Partridges*, *Sea-fowl*, and other Game; and for excellent *Fish* may compare with any Country whatsoever; nor is it wanting in any thing either for pleasure or profit, except *Wood*, and that they are supplied with from *Hantshire*.

It is a place of great strength, as well by Nature as Art; for besides its *Castles*, *Block-houses*, *Forts*, and *Militia*; it is fenced about with a ridge of craggy *Rocks* and *Cliffs*, with dangerous *Banks*; amongst which those of most note to Sea-men are the *Needles*, *Shigles*, *Brambles*, the *Mixon*, &c. It is very populous, and garnished with 36 *Parish Churches*, and hath for its chief places,

Newport, a large, populous and well frequented *Major Town*, which hath the election of *Parliament men*, is dignified with the title of an *Earldom*, and at present the only *Market Town* in the Isle, which is here kept on *Wednesdays* and *Saturdays*, both very considerable for *Provisions*, *Corn*, *Cattle*, and other Commodities. It is seated within 4 miles of the *Sea*, and on a navigable *Creek* for small Vessels to the *Key*, which doth much facilitate its Trade. *Newport.*

Yarmouth, a fair *Borough Town*, which electeth *Parliament men*, and had formerly a Market; is beautified with well built Houses, which for the most part are of *Free-stone* and covered with *Slate*. Its scituation is in the Western part of the Isle on the *Sea-shoar*, with which and its Arms it is now encompassed, and hath 3 strong Fortifications raised with a Draw-Bridge, and the West end is defended by a powerful *Castle* on the Key. *Yarmouth.*

The *Cowes*, seated at the entring in of the *Creek* that goeth to *Newport*; a place very eminent for the harbouring of Ships.

About this *Isle* are several other small ones, or rather *Rocks*, as those called the *Black-Rock*, the *Mixon*, the *Don*, *Mose*, *Chisborne*, *Goss*, *Warden*, *Atherfield*, and *Chalk-Rocks*; and on the North part, between it and *Portsmouth*, as dangerous Sands, as the *Brambles*, the *Horse*, and *Normans Lands*.

HARTFORDSHIRE, blest with a wholsom Air, and for the generality is of an indifferent fertil Soil for Grain, affording good store of *Wheat* and *Barley*, of which they make *Mault*, especially in the Vale of *Ringtail* or *Ringdale*, and hath plenty of *Meadows* and *Pastures*, which feed store of *Cattle*; but of its own nature it is apt to bear *Wood* and *Copses*. It is well stored with *Parks*, and hath many pleasant and ancient Seats of Gentry, commonly called *Berryes*, that is, *Manor-Houses*, *Court-Houses* or *Halls*. *Hartfordshire* described.

It is well watered with Rivers, the chief amongst which are the *Lea*, *Stower*, *Stratford*, *Redburne*, *Flamsted*, *Colne*, &c.

The

The ancient Inhabitants known to the *Romans*, were the *Trinobantes* and the *Cattieuchlanians*, and became afterwards part of the East *Saxons*.

It is severed into 8 *Hundreds*, in which are seated 120 *Parish Churches*, besides 15 *Chappels* of *Ease*, and is traded unto by 18 *Market Towns*, most of which are of good account.

Hartford. *Hartford*, seated on the *Lea*, said to be formerly navigable, once a place of a larger extent, and of more beauty, strength and esteem than now it is; yet is it the Shire Town, where the County Goal is kept, and as a *Borough Town* electeth *Parliament men*. It is governed by a *Major*, 9 *Burgesses*, 16 *Assistants*, a *high Steward*, who is always a Noble-man, a *Steward* of the Court of *Records* and other sub-Officers, and hath a Market on *Saturdays*, which is well frequented and served with Commodities.

St. Albans. St. *Albans*, seated on the *Colne*, a Town of great antiquity, being raised from the ruins of that famous City *Verulam*, so splendid in the time of the *Romans*, as may appear by the *Pillars*, *Pavements*, *Arched-Vaults*, *Idols*, and *Coins* oft digged up; at which time it enjoyed ample Priviledges and Immunities, many of which it yet keepeth, being dignified with the Title of an *Earldom*, and as a *Borough Town* electeth *Parliament men*. For its chief Magistrates hath a *Major*, 10 *Aldermen*, a *Steward* and *Chamberlain*. It is a fair, large, well inhabited and frequented thorough-fare Town, divided into four Wards; for Divine worship hath 3 *Parish Churches*, in one of which was (if not is) a *Font* of solid Brass brought out of *Scotland*, which was there made use of for the baptizing the *Scottish* Kings Children, and hath a Market on *Saturdays*, which is well served with Commodities, &c.

Barnet. *Barnet*, or *high Barnet*, a large, dry and pleasant Town, highly seated, and on the Road, a place of some account for its *Medicinal-waters*, as also for its Swine-Market on *Mondays*, which makes it to be well frequented, and to be well accommodated with Inns. Here was fought a bloody Battle between the Competitors of the Houses of *York* and *Lancaster* on *Easter-day*, in which *Edward* the Fourth became Victor.

Watford. *Watford*, seated on the *Colne*; a large and well inhabited Town, whose Market on *Tuesdays* is well frequented, affording all necessaries, especially Corn in great plenty.

Not far from *Watford* is *Langley* Abby, where was born *Nicholas*, Surnamed *Break-Spear*, who was afterwards Bishop of *Rome*, and called Pope *Hadrian* the 4*th*. He taught the *Norwegians* the Christian Faith: he was of so proud a Spirit, that he had his Stirup held by *Frederick* the *Roman* Emperour.

Berkhamsted. *Berkhamsted* hath a fair *Free School*, and a pretty good Market on *Mondays*, chiefly for *Malt*. And here it was that the *English Nobles* met in Council for the shaking off the *Normans* Yoke.

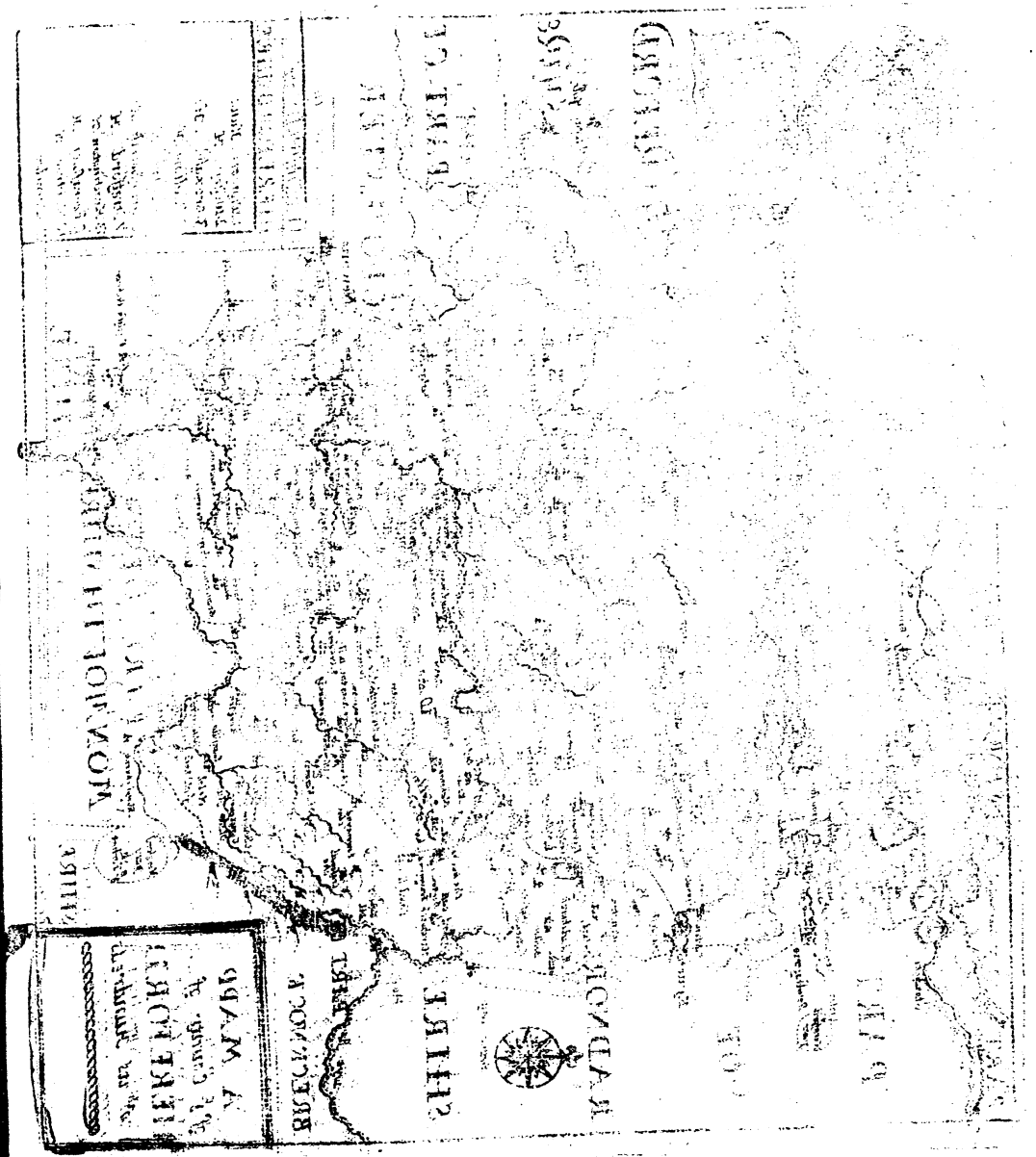
Hatfield. *Hatfield*, a place of great delight and recreation, by reason of its *Parks* and other places of pleasure, once dignified with a *Royal-house* of the Kings, which now belongeth to the Earl of *Salisbury*; it hath a Market on *Thursdays*.

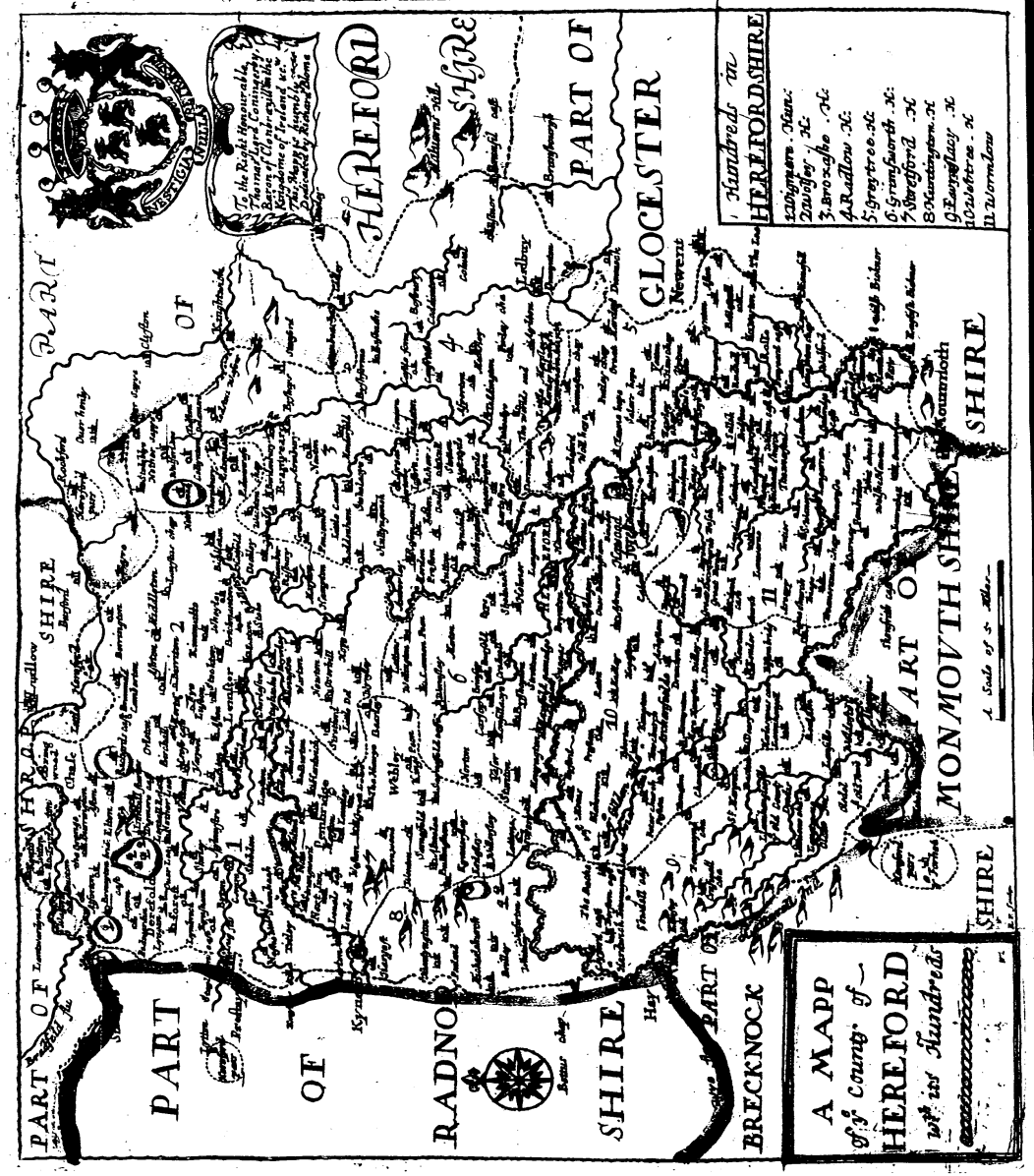
Ware. *Ware*, a large, well frequented and inhabited thorough-fare Town, seated on the *Lea*, hath a Market on *Tuesdays*, which is well provided with Commodities; a place well known to many for its great *Bed*.

Stratford. *Stratford*, or *Bishops-Stratford*, seated on the side of a Hill; a very large, fair, and well inhabited and frequented Market Town, full of *Inns* for the giving entertainment to Strangers, and its Market on *Thursdays* is very well resorted unto, and provided with Provisions and most Country Commodities. Here are the ruins of a *Castle*, raised on an artificial Mount, within which is a deep and dark Dungeon called the *Convicts Prison*, by which it may be supposed that some great Priviledges did belong unto it.

Baldock. *Baldock*, a considerable large Town, seated between the Hills in a *Chalky* Soil fit for Corn, of chief note for its many *Maulsters*; yet its Market on *Thursdays* is but small.

Royston,





Royston, a famous *Market Town*, which is kept on *Wednesdays* for *Corn* and *Mault* here made, being seated in a fat Soil, and between Hills in a bottom. The Town is large, well inhabited and full of *Inns*, part being in this County and part in *Cambridgeshire*. *Royston.*

HEREFORDSHIRE, a County every where exceeding fertil, having great plenty of Grains and rich Pastures, which feed store of Cattle, especially *Sheep*, whose *Wool* is much esteemed for its fineſs; and for *Wheat*, *Wool* and *Water* it yieldeth to no County in *England*. It is well clothed with *Wood*, and watered with *Rivers*, the chief amongst which are the *Wye*, *Munow*, *Wades*, *Doive*, *Lugg*, *Froom*, &c. *Herefordshire described.*

All *Fruits* here grow in great plenty, and of their *Apples* they make such abundance of *Sider*, that besides what they use themselves (it being their general drink) of late years it is become a considerable Commodity, especially that which is called *Red-streak*.

Its ancient Inhabitants were the *Silures*, a stout and warlike People, who sorely perplexed the *Romans* for 9 years space, through the valour and noble exploits of their Commander *Caractacus*, and became afterwards part of the Kingdom of the *Mercians*.

It is divided into 11 *Hundreds*, in which are numbred 176 *Parish Churches*, and hath Traffick with 8 *Market Towns*.

Hereford, a City of great antiquity, and raised out of the ancient *Arconium*, now called *Kenchester*, about 3 miles distant; a place of good account in the time of the *Romans*, and so continued until it was shaken to pieces by a violent *Earthquake*. It is no less pleasantly than commodiously seated amongst delightful *Meadows* and rich *Corn-fields*, and almost encompassed with *Rivers*, to wit the *Wye* and two others, over which are two Bridges. It is of a large place, beautified with good Buildings both publick and private, amongst which are the *Bishops Palace*, the *Colledge*, the *Cathedral*, the *Prebends houses*, and *Hospital*, and numbreth 6 *Parish Churches*, (two of which in the late Troubles were demolished) besides its *Cathedral*, to which belongeth a *Bishop*, *Dean*, *Chancellor*, 6 *Canons*, 27 *Prebends*, with a *Chanter*, *Treasurer*, 12 *Vicars Choral*, besides *Deacons*, *Queristers*, and other Attendants. This City enjoyeth large Immunities, sendeth *Burgesses* to Parliament, is governed by a *Major*, 6 *Aldermen*, a *Common Council*, *Recorder*, and other sub-Officers, and is very well served with Commodities, having weekly 3 Markets on *Wednesdays*, *Fridays* and *Saturdays*, which are of considerable account; that on *Fridays* for *Cattle*, *Sheep*, and *Hogs*, and the other for *Grain* and all sorts of *Provisions*, besides *Gloves* here made and sold in great quantities. *Hereford.*

Near to this City is *Gilden Vale*, so called from the fertility of the Soil and pleasant situation.

Ross, seated in a fertil Soil on the banks of the *Wye*; a fair *Borough Town*, which hath a very great Market on *Thursdays* for *Corn*, *Cattle*, and *Provisions*, being much resorted unto by the Inhabitants of *Glouceſterſhire* and *Monmouthshire*. *Ross.*

Ledbury, near adjoyning to *Malvern Hills*; a fine well built Town, seated in a rich Clayey-ground, much inhabited by *Clothiers*, who drive a good Trade, and its Market on *Tuesdays* is well served with, *Corn*, *Cattle*, and *Provisions*. *Ledbury.*

Lemster, a large, ancient and pleasant Town, seated in a rich Soil and on the *Lugg*, which runneth through it, over which are several Bridges. It is governed by a *Bayliff*, a *Recorder*, *Justices* of the *Peace*, and 24 of the *Chamber* or *Common Council*; it sendeth *Burgesses* to Parliament, and hath a very good Market on *Fridays* for *Corn*, *Cattle*, *Sheep*, *Provisions*, *Hops* and *Wool*, for which this Town is of note, it being called *Lemster-Ore*. *Lemster.*

Kyneton, also seated on the *Arrow*; a pretty large and well built Town, whose Inhabitants drive a good Trade for *narrow Cloths*. Its Market on *Wednesdays* for *Corn*, *Cattle*, *Provisions*, and several Country Commodities, is esteemed the best in the County. *Kyneton.*

County of Huntington described.

HUNTINGTONSHIRE, a County for the generality of a fertil Soil both for Corn and Tillage, garniſhed with delightful Hills, and towards the Eaſt; where it joyneth on the *Fens*; it hath rich Paſturage, which feed ſtore of Cattle. It is well watered with *Rivers*, the chief amongſt which is the *Ouſe*, which divideth it ſelf into ſeveral ſtreams.

It is ſevered into 4 *Hundreds*, in which are ſeated 79 *Pariſh Churches*, and is traded unto by 5 *Market Towns*.

Huntington.

Huntington, pleaſantly ſeated on a riſing Aſcent, and on the North-banks of the *Owſe*, over which it hath a fair *Stone-bridge*, which leadeth to *Godmancheſter* on the other ſide of the *Owſe*; a very large County and ancient *Borough Town*, ſeated in a rich Soil, and well inhabited by *Yeomen* and *Farmers*. It is a Town of great antiquity, was once very populous, numbring no leſs than 15 *Pariſh Churches*, which are now reduced to 4, and enjoyed great Immunities, and had a Mint for Coynage. At preſent it is dignified with the title of an *Earldom*, ſendeth *Burgeſſes* to Parliament, is governed by a *Major*, 12 *Aldermen*, (of which the *Major* is one) and *Burgeſſes*; is well inhabited and frequented, and the rather as being a thorough-fare Town from *London*, *Cambridge*, and other Southern parts of *England*, into the North and into *Scotland*; and alſo for being the place where the *Aſſizes* are kept for the County; and its Market on *Saturdays* is very well ſerved with *Proviſions*.

St. Ives.

St. Ives, ſo called from one *Ivo* a *Perſian* Biſhop, who 'tis ſaid about the year 600 travelled through *England* preaching the Goſpel, and here ended his days, and his Body was from hence removed to *Ramſey Abbey*; a fair, large and ancient Town, ſeated on the *Owſe*, over which it hath a very good *Stone-bridge*, hath a Market on *Mondays*, which is well ſerved with Proviſions, and is of chief note for living Cattel.

St. Neots.

St. Neots (ſo called from *Neotus*, a Monk of *Glaſtenbury*;) a large and well built Town, beautified with a neat Church, is commodiouſly ſeated on the *Owſe*, over which it hath a fair *Stone-bridge*, which leadeth to *Bedfordſhire*. Its Market is on *Thurſdays*, which is well ſerved with Proviſions, and through the commodiouſneſs of the *Owſe* the Neighbouring Towns are from hence furniſhed with *Coals*.

Ramſey.

Ramſey, ſeated in the *Fenny* part amongſt rich grounds both for Tillage and Paſturage, and near the Meers of *Ramſey* and *Whitleſey*, which with the *Rivers* that plentifully water it, afford excellent *Fiſh* and *wild Fowl* in great plenty. It is a good Country Town, which was held in great eſteem for its rich *Abby* ſo called, and its Market on *Wedneſdays* is well frequented.

County of Kent deſcribed.

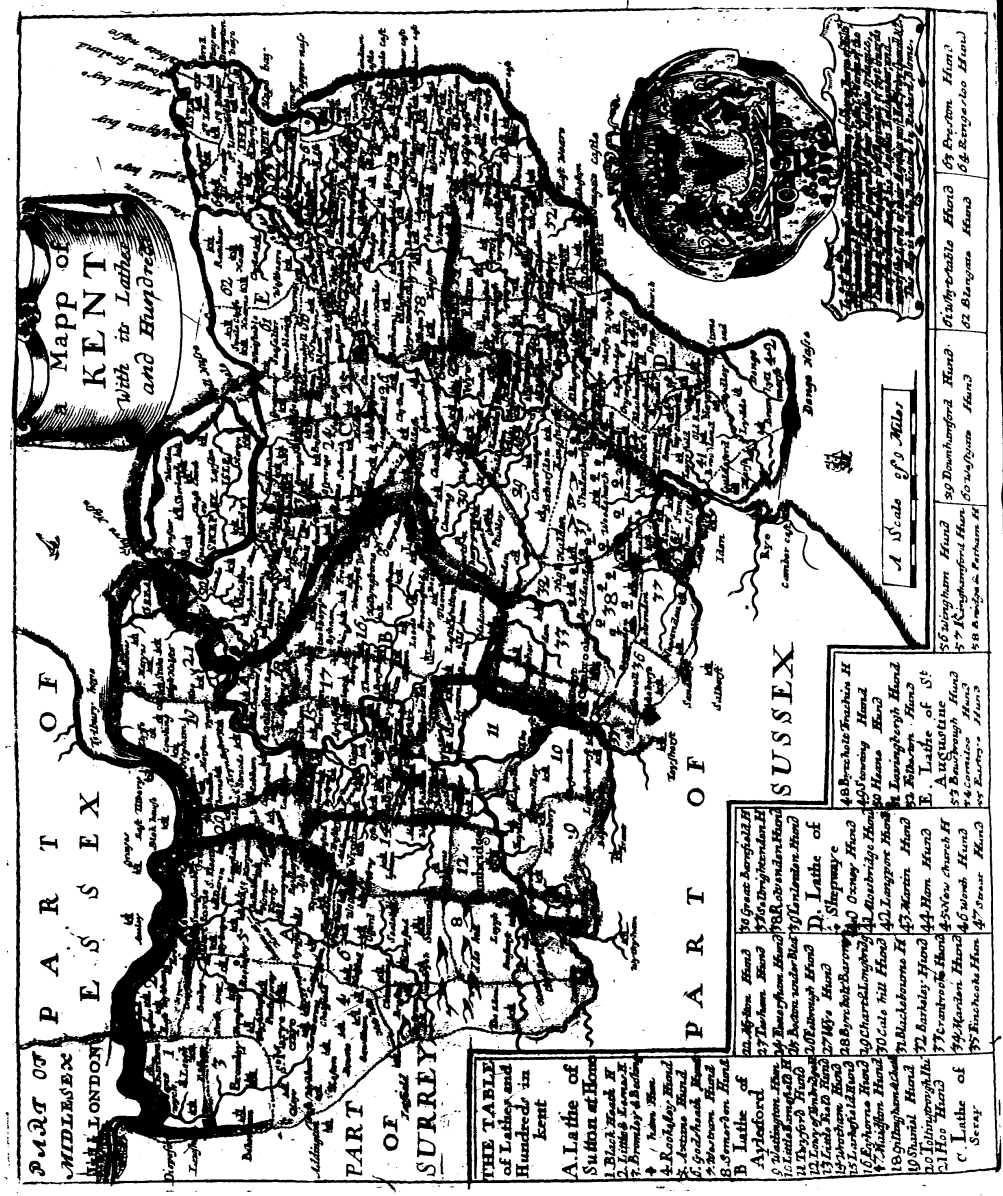
KENT, a County of a large extent, and although very hilly, for the generality is of a rich and fertil Soil both for Corn and Paſture, and is well ſtored with *Cattle*, *Fiſh*, *Fowl*, and *Fruits*.

The Air is temperate and good, except in the *Weald* and *Marſhes*, which are Aguiſh. It is well watered with *Rivers*, many of which are Navigable; as the *Thames*, which waſhes its Northern parts; the *Medway*, which in a manner divideth the Shire in the midſt, and is the ſtation for his Majeſties *Navy Royal* (which ſaid River loſeth it ſelf under ground, and riſeth again near *Cox-heath*) beſides 10 others of conſiderable account, which opening with ſeveral Creeks and Havens, are found commodious for *Ships* to ride in, of which four bear the name of *Cinque Ports*, viz. *Dover*, *Sandwich*, *Rumney*, and *Hith*; and on the banks of theſe Rivers, which are croſſed by divers *Bridges*, are ſeated ſeveral good Towns.

This County boaſteth it ſelf for being the firſt Kingdom of the *Heptarchy*; of having a particular King to it ſelf; that it was never ſubdued, but yielded upon Articles to the *Normans*, and to keep their ancient Cuſtoms; That their *Kings* and *Commons*, amongſt all the *Saxons*, were the firſt Chriſtians.

This





This County is enriched with two Cities and *Episcopal Sees*, is strengthned with several *Castles*, is graced with 4 of the *Kings Palaces*, beautified with many splendid Buildings; well replenisheth with Gentry, sufficiently stored with safe Roads and secure Harbours for *Ships*; plentifully garnished with good Towns, is a place of a considerable Trade, affording *Corn* and other Grains, *Cloth* and several *Draperies*, *Fullers-Earth*, *Madder*, *Flax*, *Iron*, *Wood*, Fruits, both *Apples* and *Cherries*, in great plenty; and by reason of its vicinity to *France* is well known and frequented by Strangers.

As to its division, it hath 14 *Bailywicks*, 17 *Franchises* and *Liberties*, which have Courts of *Record* to hold plea of all Actions real, personal, and mixt, and 14 *Corporations*; for the names of all which see the Volume of *Britannia*, *pag.* 122. lately published by me.

It is severed into 5 *Laths* and 64 *Hundreds*, in which said *Hundreds* are numbred 400 and odd *Parishes*, and hath intercourse of Traffick with 28 *Market Towns*.

The *Lath* of *Sutton*, or *SUTTON* at *Hone*, is severed into 8 *Hundreds*, hath two divisions of *Justices* of the *Peace*, and for its chief places hath, Lath of *Sutton* with its chief places.

Sevenoke, a Town of good resort, so called from its Founder *Will. Sevenoke*, Lord *Major* of *London*, *Anno* 1418. who erected a *Free School* and an *Hospital*; hath a Market on *Saturdays*, which is well served with *Corn* and *Provisions*. *Sevenoke.*

Dartford, seated on the *Darent*, not far from its influx into the *Thames*, and on the high Road from *London* to *Canterbury*; 'tis a good large Town, full of *Inns* and Houses of Entertainment, and hath a Market on *Saturdays*, which is well stored with *Corn* and *Provisions*, and is much frequented by *Corn-Chandlers* and *Meal-men*. *Dartford.*

Greenwich, a large, well built and very pleasant Town, seated on the Bank of the *Thames*, being much inhabited and frequented by Gentry, and enobled with a once stately *Palace* of the Kings, out of the Ruins of which is now erecting a curious Pile of Buildings; and adjoyning to this *Palace* is a small, but pleasant *Park*, which affords a delectable prospect. And here it was that Queen *Elizabeth*, with divers other Princes, were born. *Greenwich.*

Adjoyning to *Greenwich* is *Black-heath*, a place of note in former times for Military Affairs; and it is supposed, that here might be dug excellent *Sea-Coals*, but is not encouraged for fear of hindring the *Newcastle-Trade*.

Eltham, seated on the South-side of *Shooters-Hill* amongst Woods; a well built Town, neatly scituated, well inhabited by *Gentry*, and was once honoured with a *Palace* of his Majesty; said to be built by *Anthony Beck*, *Patriarch* of *Jerusalem*, who gave it to Queen *Elianor*, wife to King *Edward* the First. *Eltham.*

The *Lath* of *AYLESFORD* is of a large extent, reaching from North to South, is severed into 15 *Hundreds*, is divided into 3 divisions of the *Justices* of the *Peace*, and hath for its chief places *Aylsford* Lath described.

Rochester, an ancient City, and once larger than now it is, being at present but small, having but one principal Street, which is of a good length, and for the most part inhabited by *Tradesmen* and *Inn-keepers*, and graced with well built Houses; besides its *Cathedral*, built by *Ethelbert* King of *Kent*, dedicated to St. *Andrew*, a fair structure, to which belongeth a *Deanary* and 6 *Prebendaries*. It is a City no less pleasantly than commodiously seated on the banks of the *Medway*, over which it hath a stately *Stone-bridge*, sustained by divers Arches, which leadeth unto *Strood*, a good, fair and well inhabited thorough-fare Town from *London* to *Canterbury*, (as is *Rochester*). This City enjoyeth several Immunities, is dignified with the Title of an *Earldom*, governed by a *Major*, Court of *Aldermen*, with other sub-Officers, hath the election of *Parliament men*, is well resorted unto, and its Market on *Friday* is well served with Provisions. *Rochester.*

Adjoyning to this City is *Chetham*, alſo ſeated on the banks of the *Medway*; a long thorough-fare Town, which is chiefly inhabited by *Sea-men*, and thoſe that have alliance thereunto, and the more as being the ſtation of the *Navy-Royal*, and where there is a ſtately *Dock* for the building and equipping of his *Majeſties Ships*.

Graveſ-end. *Graves-end*, ſeated on the banks of the *Thames*; a place of great reſort, as being the common Landing-place for Strangers and Sea-men in their paſſages to *London*; as likewiſe the accuſtomary place for the taking of *Shipping*, and the ready Road to *France*, which doth occaſion it to be well furniſhed with *Inns*, *Taverns*, and Houſes of entertainment, and its Market on *Wedneſdays* and *Saturdays* to be well provided with Victuals; yet all things here want for no price. And here is ſeated one of the *Block-houſes*, the other being oppoſite unto it in the County of *Eſſex*; which ſaid *Blockhouſes* are for the ſecuring the paſſage of the *Thames* up to *London*.

Maidſtone. *Maidſtone*, ſeated on the *Medway*, (over which it hath a fair Bridge) which, with the branch it ſendeth forth, ſevereth the Town. It is a large, fair, ſweet, populous, and well built and frequented *Borough Town*, which electeth *Parliament men*, enjoyeth ſeveral Priviledges, and as the *Shire-Town* here is one of the Priſons for the County, and where they keep their *Seſſions* and *Aſſizes*. Its Market is on *Thurſdays*, which is very conſiderable and well provided with Corn and all ſorts of Proviſions.

Tunbridge. *Tunbridge*, ſeated on a branch of the *Medway*, over which it hath a Bridge, and is ſaid to take its name from its many Bridges. It is a well frequented Market-Town, which is on *Fridays* for Corn and Proviſions, and is of chief note for its healthful and Medicinal Waters near adjoyning, which are much viſited by the Gentry in the Summer ſeaſon.

Lath of *Scray* deſcribed. The Lath of *Scray* taketh up the mid-part of the County, is divided into 16 *Hundreds*, hath two diviſions of *Juſtices* of the *Peace*, and hath for its chief places,

Feverſham. *Feverſham*, not far from the Iſle of *Shippey*, ſo made by the *Medway*, which with the *Sea* encircleth it; out of which ſaid River there cometh a Creek up to the Town, by reaſon of which it is well frequented by *Hoyes* and ſuch like ſmall Veſſels, which here drive a good Trade, it being the principal Port-Town for all this part of *Kent*. The Town is large, well built, and inhabited by *Tradeſmen*, *Inn-keepers* and *Victualers*; and its Markets on *Wedneſdays* and *Saturdays* are well ſerved with Proviſions.

Near this Town are very deep Pits, which are narrow at the mouth and broad below, with *Chalk Pillars* as it were to ſupport them, and have partitions or rooms within them.

Queenborough. *Queenborough*, ſeated in the Iſle of *Shippey* (which is about 21 miles in circuit, and of an exceeding fertil Soil, feeding great flocks of *Sheep*, from whence 'tis ſaid to take its name;) a *Borough Town* of great antiquity, but is very ſmall and mean. For the defence of the paſſage up the River of *Thames* here was a very ſtrong Caſtle, now reduced to ruin; but of late his preſent Majeſty hath cauſed a powerful Fort to be raiſed at *Shyreneſs*, the better to ſecure the paſſage up the *Medway* to *Gellingham* and *Chetham*, where the *Navy Royal* rideth. In the Iſle of *Shippey* there are no *Moles*, and if any be carried thither, they are ſaid to die.

Aſhford. *Aſhford*, not far from the *Stower*, hath a well frequented Market on *Saturdays*; and in this Town is kept a Court of *Record* upon every *Tueſday* three weeks for Actions, wherein the debt or damages do not exceed 20 Marks.

Lath of *Shepway.* The Lath of *SHEPWAY* is ſevered into 13 *Hundreds*, hath one diviſion of *Juſtices* of the *Peace*, and for its chief places hath,

Hyth. *Hyth*, once a place of good note and largeneſs, as being one of the *Cinque-Ports*, but now not much frequented, by reaſon of the *Seas* forſaking it, and its Haven being choaked up; yet doth it ſtill retain its priviledges as other *Cinque-port Towns*, and hath a Market on *Saturdays*, which is indifferently well furniſhed with Proviſions; and here are yet two *Hoſpitals*, which are both under the government of the *Major* and *Jurats* of the Town.

Rumney,

Rumney, another of the *Cinque-Port Towns*; ſeated in a Marſh ſo called, of about 14 miles in length and 8 in breadth; now more famous for the fertility of the Marſh in graſing of Cattle than for the goodneſs of the place, by reaſon of the *Seas* leaving it; and for its unwholſom Air, the Town being not large nor the Buildings good, yet is it the chiefeſt *Market Town* in the Marſh, which every *Thurſday* is indifferently well ſerved with Proviſions; yet doth it ſtill enjoy the priviledges of other *Cinque-port Towns*. *Rumney.*

Lath of St. *Auguſtine.* The *Lath* of *St. AUGUSTINE* is waſhed on the North and Eaſt with the *Sea*; it is ſevered into 12 *Hundreds*, hath one diviſion of *Juſtices* of the *Peace*, and for its chief places hath,

Canterbury. *Canterbury*, a City of great antiquity, being ſaid to be built 900 years before the birth of Chriſt, and in former time was held in great fame and much reſorted unto, and the more for being the Burial-place of St. *Thomas Becket* there ſlain, a perſon ſo greatly reverenced by the *Romaniſts*. This City is encompaſſed with a *Mote* and *Wall*, on which are (or were) ſeveral *Cittadels* or *Watch-Towers*, without which are its Suburbs, in which and within the City are numbred 14 *Pariſh Churches* beſides its *Cathedral*, a large and ſuperb ſtructure, not inferiour to St. *Pauls* at *London*, when in its priſtine grandure and ſplendour, having two lofty Towers, which much add to the proſpect of the City, and within its bounds or limits are ſeveral fair Edifices belonging to the *Dean* and *Prebends*, as alſo a Free School called the *Kings School*. It is a City graced with divers good Buildings and a fair *Market-houſe*, over which are Rooms made uſe of by the *Major* and *Aldermen* for the publick concerns of the City. It is dignified with an *Epiſcopal See*, who is Primate of all *England*; is governed by a *Major* and *Court of Aldermen*, and hath a *Recorder* and other ſub-Officers. It enjoyeth ſeveral Immunities, electeth *Parliament men*, is well inhabited and traded unto for its *Stuffs* made by *Walloons* there inhabiting, and is well provided with Proviſions; for beſides its Shambles it hath weekly two Markets on *Wedneſdays* and *Saturdays*, which is the moſt conſiderable.

Dover. *Dover*, commodiouſly ſeated on the Sea-ſhoar, which together with its ſtrength, as well by Nature as Art (being loftily ſcituated between high Cliffs, commanding both Sea and Country adjacent, and defended by a ſtrong Caſtle and other Fortifications;) as alſo the commodiouſneſs of its Haven, for being one of the *Cinque-port Towns*; and for its ſhort and ready paſſage into *France* (being about 21 miles) makes it a place of conſiderable note. It alſo enjoyeth a good Trade, and its Markets on *Wedneſdays* and *Saturdays* are well frequented and furniſhed with Proviſions. It is a *Town Corporate*, governed by a *Major* and other Officers, enjoyeth ample Immunities, and was of a larger extent than now it is, having formerly 7 *Pariſh Churches*, which are reduced to 2. Its Caſtle (built by *Julius Cæſar*) is eſteemed a place of great importance to the Nation, and is ſtrongly guarded. At the weſt part of the *Peer* is a Fort called *Archliff Fort*; and in the Cliff under the *Caſtle* is a Fort called *Motes Bulwark*: and at the other ſide of the Caſtle-hill is a *Tower* or *Light-houſe*, made uſe of for direction of Ships, called *Breden-ſtone*, and by ſome, the *Devils drop of Mortar*.

Along the Shoar, going towards *Sandwich*, are St. *Margarets-bay*, *Kingsdown*, *Walmer* Caſtle, *Deal* Caſtle, and *Sandown* Caſtle.

Sandwich. *Sandwich*, another of the *Cinque-port Towns*, being incorporated, and amongſt its Immunities electeth *Burgeſſes*. It is a place of good ſtrength both by Nature and Art, but by reaſon of the ill-commodiouſneſs of the Harbour is not well frequented; yet hath it weekly 2 Markets on *Wedneſdays* and *Saturdays*.

Iſle of *Thanet.* The Iſle of *THANET* doth here preſent it ſelf, which is about 9 miles long, and about the ſame breadth where broadeſt. It is very populous and plentifully ſtored with Proviſions, eſpecially Corn, and hath in it ſeveral Towns, whoſe names appear in the Map.

County of Lancaster described.

The County Palatine of *LANCASTER*, for the generality of an unfertil Soil as to the *Mooriſh* part; yet not without a ſufficiency of *Corn, Cattle, Fiſh, Fowl, Goats, Flax, &c.* The Eaſtern part is very Mountainous, and full of ſtony, barren and craggy Hills, being the habitation of *Foxes, Conies*, and ſome *Otters*; but where the ground is plain and Champain it is very grateful to the Husbandman, except ſome moiſt and unwholſom places, which they call *Moſſes*, which are not unlike *Iriſh-bogs*, from which the Inhabitants are ſupplied with *Turf* for Fuel; and throughout the County there is great ſtore of goodly Cattle, which are there ſold at eaſie rates.

The *Air* of this County is ſharp and ſerene, but very healthful to the Inhabitants.

It is very well watered with Rivers, amongſt which are the *Merſey, Irwel, Roch, Irke, Dugleſs, Tarrow, Ribel, Derwent, Codar, Lune, Brochwyre, Keere, Kent, Dudden, &c.* with the *Sea*, which watereth its Weſtern parts, together with the *Meers*; it aboundeth in *Fiſh* and *Fowl*.

The antient Inhabitants were the *Brigantes*; and when the *Saxons* became Maſters of the Iſle, it was part of the Kingdom of the *Northumbers*.

Although there are but 61 *Pariſhes* in the County, yet it is very populous, the Pariſhes being large, containing within them ſeveral *Chappels* of *Eaſe*, which may be reckoned as Pariſhes in other Counties. And amongſt theſe Pariſhes there are 27 *Market Towns*, many of which are large, well frequented and traded unto.

Lancaſter. *Lancaſter*, a place of good antiquity, pleaſantly ſeated on the River *Lune*, over which it hath a fair *Stone-bridge* ſuſtained by 5 Arches. It is at preſent indifferent large, containing (though but one *Pariſh Church*, which is large and fair,) yet ſeveral well ordered Streets, and graced with good Buildings; the chief amongſt which are its *Church, Bridge, Market-houſe* or *Town-hall*, where the *Major* and his *Brethren* keep their Courts, and *Caſtle*, ſeated on the top of the Hill, now made uſe of as a Priſon for the County, and where the *Aſſizes* are kept: And although the *Shire Town*, yet it is not much frequented nor inhabited by Tradeſmen, but chiefly by Husbandmen, as lying in a good Soil; but its Market, which is on *Saturdays*, is well ſerved with *Corn, Cattle*, and *Proviſions*, eſpecially *Fiſh*, and chiefly with *Salmon*. It is a *Town Corporate*, governed by a *Major*, 2 *Bailiffs*, 6 *Brethren*, 24 *Burgeſſes*, 2 *Chamberlains*, a *Recorder*, &c. and amongſt its Immunities electeth *Parliament men*.

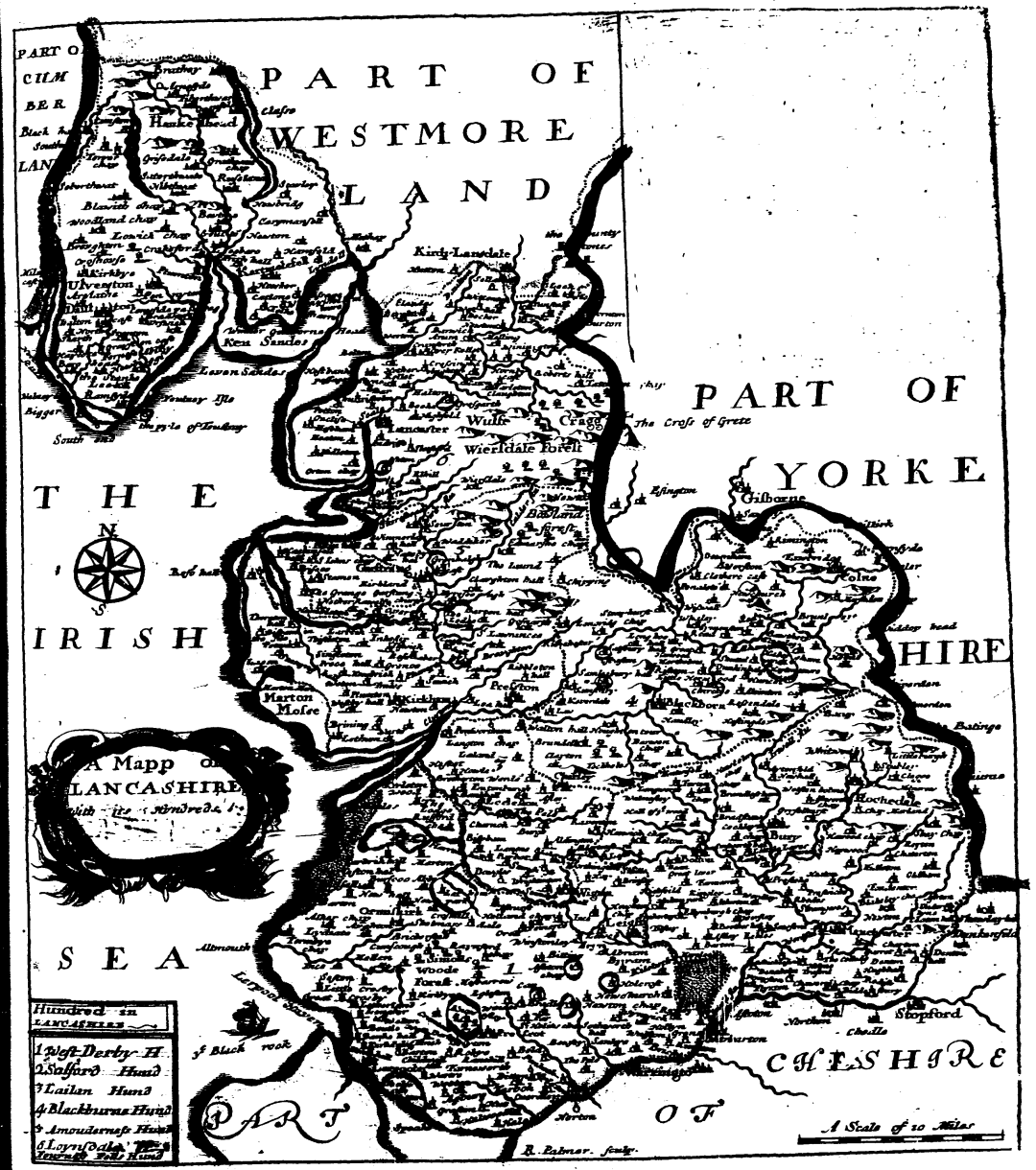
Mancheſter. *Mancheſter*, ſeated betwixt the *Irke* and *Irwel*, and upon a ſtony Hill; a Town of great antiquity, being the Fort and ſtation of the *Romans*, and at preſent is large, beautified with fair Buildings, (the chief amongſt which are its *Colledge, Market-place*, and *Collegiate-Church*, which is very ornamental) is well inhabited, much reſorted unto, and enjoyeth a conſiderable trade for moſt Commodities, but chiefly for its *Linnen* and *Woollen-Cloths*; alſo for its *Cottons*, known by the name of *Mancheſter Cottons*, which are held in great eſteem; and its Market on *Saturdays* is very conſiderable for the above-ſaid Commodities, as alſo for Proviſions.

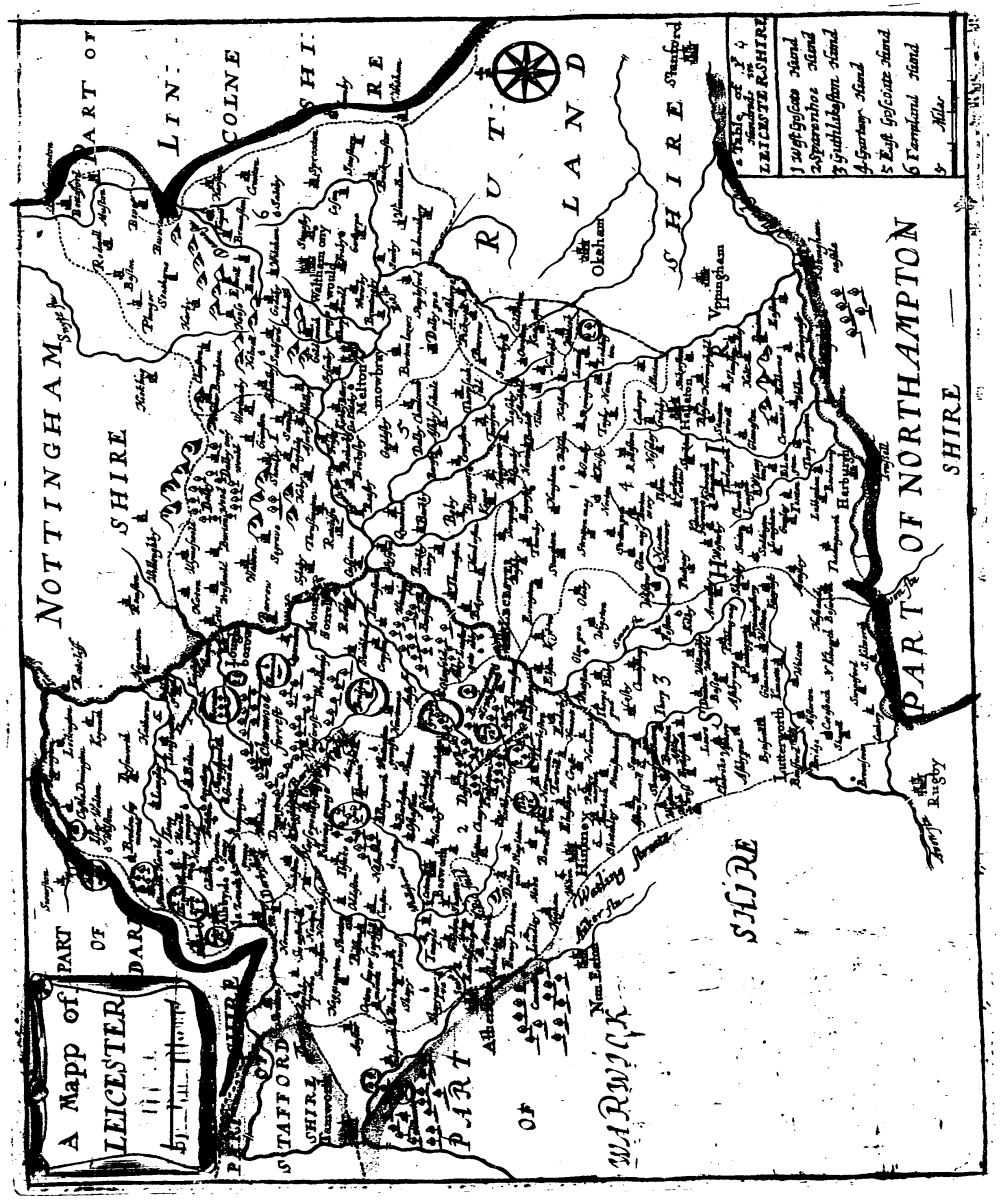
Oppoſite to *Mancheſter*, on the other ſide of the River, is *Salford*, a pretty large Town, with a *Chappel* of *Eaſe*.

Warington. *Warington*, ſeated on the *Merſey*, over which it hath a curious *Stone-bridge*, which leadeth to *Cheſhire*. It is a fine large Town, much reſorted unto by *Welſhmen*; is of note for its *Lampreys*, and hath a conſiderable Market for *Linnen-Cloth, Corn, Cattle, Fiſh* and *Proviſions*, on *Wedneſdays*.

Lerpool. *Lerpool*, or *Leverpool*, commodiouſly ſeated on the Eaſt-ſide of the goodly River *Mercy*, where it affords a bold and ſafe harbour for *Ships*, which hath much advanced its Trade, being inhabited by divers wealthy Merchants and Tradeſmen, whoſe Traffick (eſpecially into the *Weſt Indies*) makes it famous; its ſcituation affording in greater plenty and at reaſonabler rates than moſt parts of *England*, ſuch exported Commodities proper for the *Weſt Indies*, as likewiſe a quicker return for ſuch imported Commodities; By reaſon of the *Sugar-Bakers* and great Manufactures of *Cotton* in the adjacent parts; this

Town




A Mapp of PART OF LEICESTERSHIRE
NOTTINGHAM SHIRE
PART OF LINCOLNSHIRE
RUTLAND
PART OF NORTHAMPTON SHIRE
PART OF WARWICK SHIRE
STAFFORD SHIRE
Okeham
Uppingham
Stamford
Rugby
Hinckley
Ashby
Loughborough
Melton Mowbray
Nottingham
Derby
Leicester
Harborough
Market
Wellingborough
Northampton
Daventry
Coventry
Tamworth
Burton
Ashby de la Zouch
Hallaton
Lutterworth
Watling Street
Nuneaton
Atherstone
Sileby
Barrow
Mountsorrel
Wanlip
Thurcaston
Anstey
Groby
Bradgate
Newtown Linford
Ulverscroft
Whitwick
Castle Donington
Kegworth
Normanton
Wymondham
Knipton
Belvoir
Muston
Croxton
Redmile
Bottesford
Barkestone
Plungar
Harby
Stathern
Long Clawson
Hose
Melton
Asfordby
Frisby
Gaddesby
Rotherby
Brooksby
Ragdale
Hoby
Rearsby
Thrussington
Syston
Barkby
Queniborough
Cossington
Seagrave
Sileby
Rothley
Quorndon
Woodhouse
Barrow
Shepshed
Loughborough
Hathern
Dishley
Long Whatton
Diseworth
Osgathorpe
Sheepshed
Belton
Breedon
Isley Walton
Donington
Ashby Woulds
Measham
Packington
Ashby de la Zouch
Moira
Gresley
Swadlincote
Repton
Willington
Etwall
Mickleover
Derby
Findern
Twyford
Stenson
Swarkestone
Aston upon Trent
Weston upon Trent
Shardlow
Elvaston
Thulston
Ockbrook
Borrowash
Draycott
Risley
Sawley
Long Eaton
Sandiacre
Stapleford
Bramcote
Wollaton
Nottingham
Basford
Bulwell
Arnold
Gedling
Carlton
Burton Joyce
Stoke
Bingham
Radcliffe upon Trent
Cotgrave
Keyworth
Ruddington
Wilford
Clifton
Compton Acres
Wilne
Draycott
Breaston

is well inhabited, hath indifferent good Buildings, sendeth two Representatives to Parliament, containeth 3 *Parish Churches*, and its Market on *Saturdays* is well served with Corn, Provisions, and Country commodities.

From this Town *Crouch-back Richard* set forth with great strength and pomp to *Redmore*, near *Bosworth*, where, on the 22 of *August* 1485, in a bloody Battle there fought (for the deciding the differences betwixt the Houses of *York* and *Lancaster*) he was slain, yielding both himself and the victory to *Henry* of *Richmond*, who was proclaimed King in the field; and the next day the body of the said *Richard* was disgracefully brought back torn, and naked, and as meanly buried in the *Gray-Friars* of *Leicester* in a Stone-chest, which now is made use of in an *Inn* for a Drinking-trough for *Horses*.

Loughborough. *Loughborough*, delightfully seated on the banks of the *Sour*, over which it hath a Bridge, amongst fertil Meadows and near *Charwood Forrest*: It is a handsom Town, beautified with fair Buildings and a large Church, and hath a very considerable Market for *Corn*, *Cattle*, *Sheep*, and *Provisions*, on *Thursdays*.

Melton-Mowbray. *Melton-Mowbray*, well seated in a fertil Soil and on the banks of the *Eye*, which almost encircleth it, over which are two fair Stone-bridges. It is an indifferent large and well built Town, and hath a very considerable Market on *Tuesdays* for *Corn*, *Cattle*, *Hogs*, *Sheep*, *Provisions*, &c.

Lutterworth. *Lutterworth*, seated on the *Swift*, and in a good Soil; an indifferent Country Town, beautified with a large and fair Church, which hath a lofty spired Steeple; and its Market on *Thursdays* is well served with Corn and Country commodities. Near this Town is a Spring so cold, that in a short time it turns *Straws* and small *Sticks* into *Stone*.

County of Lincoln described. *LINCOLNSHIRE*, a County of a large extent, and doth divide its form, bounds and division into *Hundreds*.

The Soil is of a different temperature, the Western and Northern parts being very pleasant and grateful to the Husbandman both for *Corn* and rich *Pastures*, which feed great store of *Cattle*; and the Eastern and Southern parts are fenny, barren, and unfit for Corn; but in recompence hath great plenty of *Fish* and *Fowl*. The Air upon the South and East parts is thick and foggy, occasioned through the Fenny grounds; but the other parts good and healthful. It is well watered with Rivers, as the *Humber*, *Trent*, *Idell*, *Dane*, *Wash*, *Witham*, *Welland*, &c. which lose themselves in the Sea.

The chief Commodities that this County produceth, are *Corn*, *Cattle*, *Fish*, *Fowl*, *Flax*, *Wool*, *Alablaster*, &c.

This County is severed into 3 principal Divisions or Parts, *viz. Lindsey*, *Holland*, and *Kesteven*, which are divided into 30 *Hundreds*, in which are numbred 631 *Parish Churches*, and is traded unto by 31 *Market Towns*.

Lincoln. *Lincoln*, a City of great antiquity, and hath been far more magnificent and spacious than now it is, whose ruinous places doth witness the same, being said to have had 50 *Churches*, which now are reduced to 15, besides its *Cathedral* or *Minster*, said to be one of the finest, loftiest, and stateliest structures in *England*. This City in the time of the *Britains* was of great strength and fame, containing 1070 *Mansions*, and 900 *Burgesses*, with 12 *Lage-men*, having *Sac* and *Soc*; and in the time of the *Normans* it was esteemed one of the best peopled Cities in the Isle, and enjoyed a great Trade both by *Sea* and *Land*, insomuch that King *Edward* the Third ordained here his Staple for the Mart of *Wools*, *Leather*, and *Lead*. But its pristine glory has been much eclipsed by the several shocks of ill Fortune it hath met with; nevertheless it is a place well inhabited and frequented, enjoyeth a good Trade, and its Markets on *Fridays* is well served with Provisions, and its Shops furnished with Commodities. It is pleasantly seated on the side of a Hill, and on the River *Witham*, which divideth it self into several streams and waters in the lower part of the City, over which are divers Bridges for the accommodation of the Inhabitants in their passage to and fro. It is dignified with an *Episcopal*





Episcopal See, where the *Bishop* hath his Palace; and whose Dioceſs is the greateſt of any in *England*, numbring within its Juriſdiction 1255 *Pariſhes*, of which 577 are *Impropriatsons*. The civil Government of this City is committed to the care of a *Major*, 2 *Sheriffs*, 12 *Aldermen*, who are clothed in Scarlet, beſides a *Recorder*, *Town Clerk*, 4 *Chamberlains*, a *Sword-bearer*, 4 *Serjeants* at *Mace*, &c. It enjoyeth ample Immunities, ſendeth two Repreſentatives to Parliament, and is a County within it ſelf, whoſe Liberties extends about 20 miles in compaſs, and is called the County and City of *Lincoln*.

Iſle of *Axholme*.

The Iſle of *Axholme*, made ſo by the Rivers *Trent*, *Dun*, *Idel*, and others. It is a large tract of ground, in which are ſeated ſeveral Towns: the flat and lower part of the Iſle towards the Rivers is Mooriſh, and yieldeth a ſweet Shrub, called by the Inhabitants *Gall*. In this part have been great and tall *Fir-trees* digged up. And the middle part (which is a riſing ground) is fertil, and produceth great ſtore of *Flax*.

Barton.

Barton, ſeated on the *Humber*, where there is a conſiderable Ferry into *Yorkſhire*, which doth much advantage the Town, which is large and ſtragling, yet hath but an indifferent Market on *Saturdays*.

Grimsby-Magna.

Grimsby Magna, ſeated near the *Humber*, or rather the *Sea*, and in a flat and Marſhy rich ground. This Town was formerly very large, having two *Parish Churches*, enjoyed a good Trade; but its Harbour (which was then commodious) being choaked up, hath much eclipſed its trade and grandure, having now but one *Church*, which for largeneſs giveth place to few *Cathedrals*. Here was formerly a *Caſtle*, an *Abby*, a *Nunnery*, 2 *Priories*, and 2 *Chantries*, which time hath reduced to ruins, and in their places are erected Houſes. It is a *Town Corporate*, enjoyeth ſeveral Immunities, hath the benefit of a *Port Town*, and keepeth Courts for trial of *Cauſes* and *Felons*, ſendeth *Burgeſſes* to Parliament, is governed by a *Major*, 12 *Aldermen*, a *Recorder*, 2 *Juſtices* of the *Peace*, 2 *Town Clerks*, 2 *Chamberlains*, and other ſub-Officers, and hath a good Market for Proviſions on *Wedneſdays*.

Thong-Caſter.

Thong-Caſter, or *Caſter*, a well compacted Town, which hath a very conſiderable Market on *Saturdays*, chiefly for *Swine*, *Sheep* and *Cattle*. This Town is of note for its ancient Caſtle ſo called, ſaid to be built by *Hengiſt* the *Saxon*, who had a grant from *Vortiger* for ſo much ground as an *Ox-hide* would compaſs, which he cut into ſmall Thongs, ſo that it encompaſſed a tract of ground, on which he built the Caſtle, and there ſeated and defended himſelf.

Lowth.

Lowth, a large, well built and inhabited *Town Corporate*, governed by a *Warden* and 7 *Aſſiſtants*; and hath weekly two Markets, on *Saturdays* and and *Wedneſdays*, which is the chief, and is very conſiderable for *Cattle*, *Horſes*, *Swine*, *Corn*, and all ſorts of *Proviſions*.

Stamford.

Stamford, ſeated on the *Weland*, which being now made navigable is no ſmall advantage to the Town and Country adjacent, its Inhabitants driving a conſiderable Trade, eſpecially for *Mault* and *Free-ſtone*. It is a Town of good antiquity, from whence the *Roman High-ſtreet* leaded to the North, and in the Reign of King *Edward* the Third here was a *College* for the Profeſſors of the Arts and Sciences, who thence removed to *Brazen-Noſe* College in *Oxford*. It is a large, well inhabited and frequented Town containing ſeveral Streets, hath 6 *Pariſh Churches*, is beautified with fair Buildings, is begirt with a Wall, and hath weekly 2 Markets, on *Mondays*, which is but ſmall; and on *Fridays*, which is well furniſhed with *Corn*, *Cattle*, and all ſorts of Proviſion in great plenty.

Grantham.

Grantham, ſeated on the *Witham*; a *Borough Town*, of good account and well inhabited; is governed by an *Alderman* and 12 *Juſtices* of the *Peace*, and hath the election of *Parliament men*. The Town is beautified with a fair *Church*, which hath an exceeding lofty *Spire-Steeple*; and its Market on *Saturdays* is very conſiderable, and well ſerved with *Corn*, *Mault*, *Sheep*, and all ſorts of Proviſions.

Boſton

Boston. *Boston*, a fair, large *Borough* and *Town Corporate*, of good antiquity, enjoyeth several Immunities, electeth *Parliament-men*, and is governed by a *Major*, 12 *Aldermen*, *Burgesses*, a *Recorder*, &c. It is commodiously seated on both sides the *Witham*, over which it hath a fair Woodden-bridge, and being near its influx into the *Sea*, is a place of considerable account, is well frequented and inhabited, enjoyeth a good Trade, and its Markets on *Wednesdays* and *Saturdays* are very great, especially for Provisions both *Flesh*, *Fish*, and *Fowl*. Its Market-place is fair and spacious, as also its Church, whose *Lanthorn* or *Tower* serves as a Landmark to Sailers.

Kirton. *Kirton*, seated on a Sandy-ground, and so called from its Church, a fair structure built of *Free-stone* Cathedral-wise in form of a Cross with a broad Steeple in the middle. This whole Township is very large being divided into 4 *Hamlets* or *Vintins*, *viz. Kirton-Willington*, *Kirton-Meers*, *Kirton-Skedike*, and *Kirton-Holme*; and had formerly a Market, which is now disused.

Crowland. *Crowland*, or *Croyland*, a Town of good account amongst the *Fenny-people*; but much greater in times past for its famous *Abby*, founded by *Ethelbald* King of the *Mercians* in *Anno* 716. It is seated very low and dirty, and so shut up that there is no access to it but by the North and East-sides, and that by narrow Causwaies not admitting of *Carts*, insomuch that the Inhabitants have a Proverb, *That all the Carts that come to* Crowland *are shod with Silver*. And the scituation is much like to *Venice* in *Italy*, the Streets being severed from each other by *Dikes* or *Water-courses*, on the banks of which are set *Willow-trees*. The chief Riches here gained is by *Fish* and *Fowl*, which are taken in great plenty; and here is a small Market.

Spalding. *Spalding*, a pretty fair Town, seated very waterish and by a navigable River, which doth occasion it to have a very good Trade, having several *Vessels* and *Barges* belonging to them; and here is every *Tuesday* a very good Market for *Corn*, *Cattle*, and *Provision*.

Dunington. *Dunington*, seated in a flat, like *Spalding*; an indifferent Town, but hath a very considerable Market on *Saturdays* for Provisions, and *Hemp* in great abundance.

County of *Middlesex* described. *MIDDLESEX*, a County of a small extent, but every where garnished with Towns and fair buildings, which are the habitations of the Nobility, Gentry, and Citizens of *London*. It is blest with a sweet and wholsom Air, and for fertility of Soil both for Tillage and Pasturage, may compare with any shire in *England*, especially for its bigness.

It is severed into 6 *Hundreds*, in which are seated 73 *Parish Churches*, (besides those of *London*, and its several *Chapels* of *Ease*) and is traded unto by 4 *Market Towns*, besides the Markets in *London*.

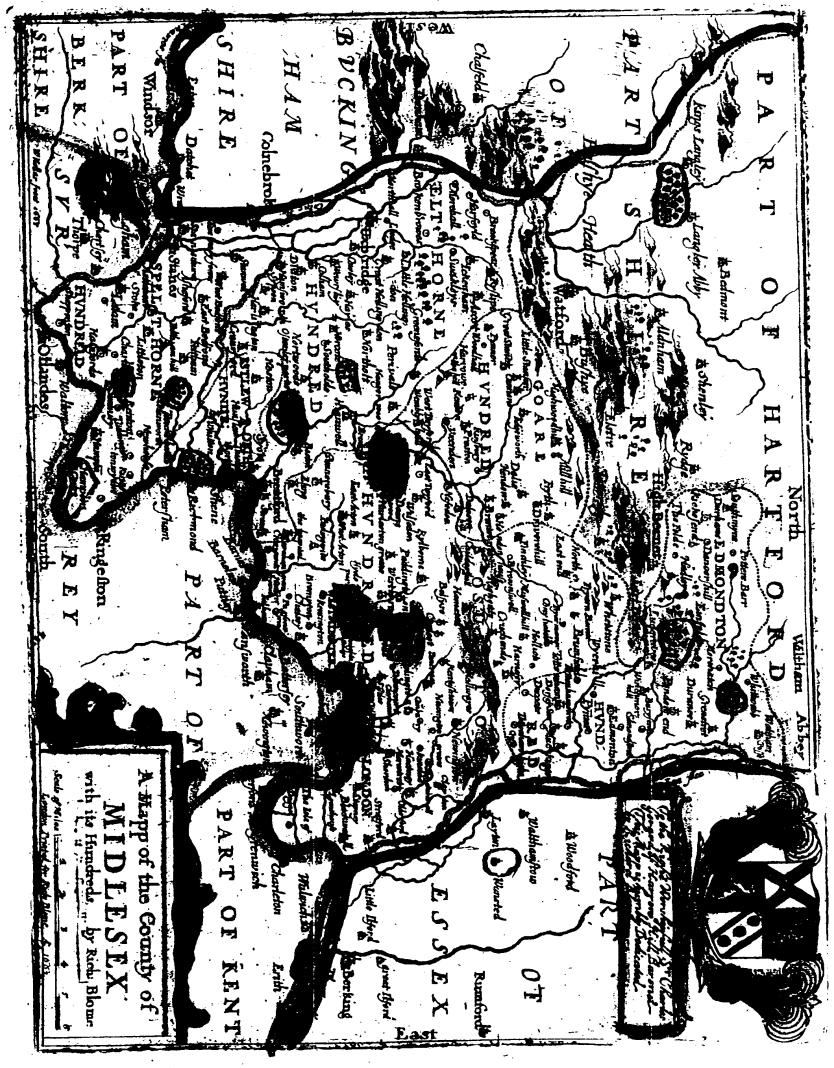
As to the description of the Towns in this County, I shall treat of those of most note, and conclude with *London*, the Metropolis of the whole Kingdom; and first with *Uxbridge*.

Uxbridge. *Uxbridge*, seated on the high Road from *London* to *Oxford*; a large, well inhabited and frequented Town, well accommodated with *Inns*, is governed by two *Bailiffs*, 2 *Constables*, and 4 *Headboroughs*, and hath a Market on *Thursdays*, which is well served with *Corn* and *Provisions*.

Hampton. *Hampton*, seated on the banks of the *Thames*, of chief note for its Palace of the King called *Hampton-Court* (delightfully seated by two *Parks*) first built by *Cardinal Woolsey*, and afterwards much enlarged by King *Henry* the Eighth, containing now within it several large Inner-Courts, which are inclosed with fair Buildings, in one of which is a stately Fountain.

Isleworth. *Isleworth*, or *Thistleworth*, a fair large and pleasant Town, seated on the banks of the *Thames*, well inhabited by Gentry and the Citizens of *London*; as are *Twittenham*, *Teddington*, *Chiswick*, *Hamersmith*, *Fulham*, and *Chelsey*, Towns all seated on the banks of the *Thames*.

Nigh



Nigh unto *Thiſtleworth* is *Sion-houſe*, a large Structure, now belonging to the Counteſs of *Northumberland*, but in times paſt was a Monaſtery, erected by King *Henry* the Fifth to the honour of our *Saviour*, the *Virgin Mary*, and *Bridget* of *Sion*, for Religious Virgins, where he appointed ſo many Nuns, Prieſts, and Lay-Brethren, as in number did equal our *Saviour* his *Apoſtles* and *Diſciples*; and on the other ſide of the *Thames* oppoſite unto it he erected another for *Canthuſian Monks*, named *Jeſus* of *Bethlehem*. Sion-Houſe.

Brentford, containing the Old and the New, both ſeated on the Weſtern Road, which doth occaſion it to be ſo well accommodated with *Inns*. In New *Brentford* is kept the Market, which every *Tueſday* is very well ſerved with Corn and Proviſions, which are much bought up by the *Londoners*. Brentford.

Kenſington, a thorough-fare Town, well inhabited by Gentry and Perſons of Honour; as are *Hampſted*, *Highgate*, *Hornſey*, *Tottenham-Highcroſs*, *Muſwel-Hill*, *Edmonton*, &c. Towns near adjacent to *London*. Kenſington.

London, the epitomy and glory of the Kingdom, was the Seat of the *Britiſh* Empire, as now the Royal-Chamber of our Kings; a City of great antiquity, ſaid to be built by *Brute* the *Trojan*; but all agree it was re-edified by King *Lud* in *Anno Mundi* 5131, who called it *Luddestown*. It is ſeated in a healthful Air, and no leſs pleaſantly than commodiouſly on the banks of the *Thames*, which ſevereth it into two (but unequal) parts, which are joyned together by a ſtately *Stone-bridge*, ſo covered with Houſes that it ſeemeth rather a Street than a Bridge. London.

This City is begirt with a Wall, firſt built by *Conſtantine* the Great, at the ſuit of his Mother *Helena*, and hath for entrance 7 principal Gates; but now as contemning bondage it hath enlarged it ſelf on all ſides with ſpacious Suburbs, inſomuch that ſhe hath joyned her ſelf to the City of *Weſtminſter*, which name is now ſwallowed up, all paſſing under the general name of *London*.

The City of *Weſtminſter*, according to Mr. *Norden* in his deſcription of *Middleſex*, was in time paſt called *Thorney*, or *Dorney*, and was an Iſle encompaſſed with the *Thames*; which divided it ſelf, and one branch paſſed between *Chairin-Croſs* and *Kingſtreet* through St. *James*'s, including *Tut-hill*, which ſaid Iſle was ſo called, as being overgrown with *Briars* and *Thorns*; but in the time of King *Lucius* it is ſaid to be cleanſed, and the foundation of the great Temple of St. *Peters* was laid, which was raiſed out of the ruins of a former, dedicated to *Apollo*, where the *Trinobantes*, or *Troinovantes*, did ſacrifice *Bulls*, *Bullocks*, *Stags*, and ſuch like Beaſts, to *Diana Tauropolia*, whom the *Gentiles* called the *Queen of Heaven*.

This City or part of *London* is the nobleſt (though not the longeſt) being taken up by the King, the Nobility, Gentry, and ſuch as have their dependancy on the *Court* or *Law*, being ſufficiently graced with fair and beautiful Edifices; as 1. The Palaces of his Majeſty *Whitehall* and St. *James*'s, to which is joyned a ſmall, but delightful Park, wherein is a *Pall-Mall*, ſaid to be the beſt in *Chriſtendom*. 2. The *Courts* of *Judicature* and *Houſes* of *Parliament*, now all known by the general name of *Weſtminſter-hall*, and was anciently the Palace of the Kings of *England*. 3. Its Collegiate-Church of *Weſtminſter*, which was formerly the Temple of St. *Peter*, and now renowned for its Chapel built by King *Henry* the Seventh, being beautified with the Tombs of the *Kings* and *Queens*, and many of the *Nobility* of *England*; nor is it leſs famous for the Inauguration of our *Kings* and *Queens*. 4. The Palace of her Majeſty, *Somerſet-houſe*; and, 5. The Houſes of the *Nobility*. And thus much for the City of *Weſtminſter*.

The Eaſtern part, or Suburbs of *London* beyond the *Tower*, is taken up by thoſe that have relation to the Sea; and the whole City thus taken is now of a great extent, being in length from *Black-wall* in the Eaſt to *Tuttle-fields* in the Weſt, about ſix miles; in breadth 1, 2, and in ſome places 3 miles, and is ſaid to make in circuit about 14 or 15 miles, in which extent are numbred about 500 Streets and Lanes, and contains (according to computation) about 75000 Houſes; and by the great number of Houſes the Inhabitants may be

guest at, which without doubt are very numerous; and if we consider its great Trade and Commerce with other Nations, its *Riches*, *Jurisdiction*, *bounds*, and *populousness*; its good Government, the ingenuity of its Inhabitants in *Letters*, *Arts*, and *Manufactures*, &c. it may deservedly be numbred with any City of the highest rank in the World.

The Buildings of note belonging to this City, are its *Inns of Court* and *Chancery*. *Guildhall*, a stately Structure, where the Courts of *Judicature* are held, and where the *Lord Major*, *Aldermen*, and *Common Council* meet, for the negotiating the Affairs of the City. The *Royal Exchange*, built quadrangular, now said to be the best in the known World. The *Tower*, a place of large extent, well furnished with a Magazin or Arsenal of warlike Munition both for Sea and Land-service, and doth contain (according to observation) a *Kings Palace*, a *Prison*, an *Armory*, a *Mint*, a *Wardrobe*, and an *Artillery*, each having their peculiar Officers; and for Buildings resembleth a Town, having a *Parochial Church*, exempted from the Jurisdiction of the Archbishop. *Gresham Colledge*, given to the City by Sir *Tho. Gresham*, with the allowance of liberal Salaries to professors of several *Arts* and *Sciences*, to read Lectures for the advancement of Learning amongst the Citizens. The *Colledge* of *Heralds*, called the *Heralds Office*; where the Records for the Arms, Descents, and Pedigrees of the *Nobility* and *Gentry* are kept. *Doctors Commons*, which is taken up by the *Civilians*. The *Colledge* of *Physitians*. The *Halls* of the several Incorporated Companies. The Houses of *Correction*, amongst which that of most note is *Bridewell*, a large Building. The *Hospitals*, viz. St. *Bartholomews*, *Christ-Church*, and the *Charter-house* (or *Sittons Hospital*) being the noblest Hospital in the Kingdom, in which are well maintained 80 *Old men*, and 40 *Boys*. The *Sessions House*, for the trial of Malefactors; and lastly, its *Churches* and *Free Schools*.

This City within the Walls and Freedom is divided into 26 *Wards*, and the Government thereof committed to the care of so many *Aldermen*, each having the overseeing of his several Ward; and besides these *Aldermen* there are 2 *Sheriffs*, which are yearly chosen, as also a *Lord Major*, who is the principal Magistrate.

To the making a compleat City there are several principal parts or helps required for the supportation thereof, and without which it cannot well stand; to wit, *Husbandry* and *Artificers*, for the providing Food and Rayment for its Inhabitants; *Arms* and *Ammunition*, for its defence; the *Priesthood*, for Divine worship; *Judges*, *Councellors*, &c. for the administration of Justice; and *Traffick*, for the bringing in of Riches: In all which this City in a liberal measure is blest with.

County of *Monmouth*.

MONMOUTHSHIRE. This County (formerly part of *Wales*) is blest with a healthful Air, and although very *hilly* and *woody*, yet is exceeding fertil, (especially the Eastern parts, which are not so hilly as the Western) the Hills feeding abundance of *Cattle* and *Sheep*, and the Valleys bearing great crops of *Corn* and *Grass*; and the rather for its being watered with so many fresh Streams; the chief of which are the *Uske*, *Wye*, *Munow*, *Ebunith*, *Scoway*, and the *Rumney*, which fall into the *Severn Sea*.

It is divided into *Hundreds*, in which Tract are seated 127 *Parish Churches*, and is traded unto by 7 *Market Towns*.

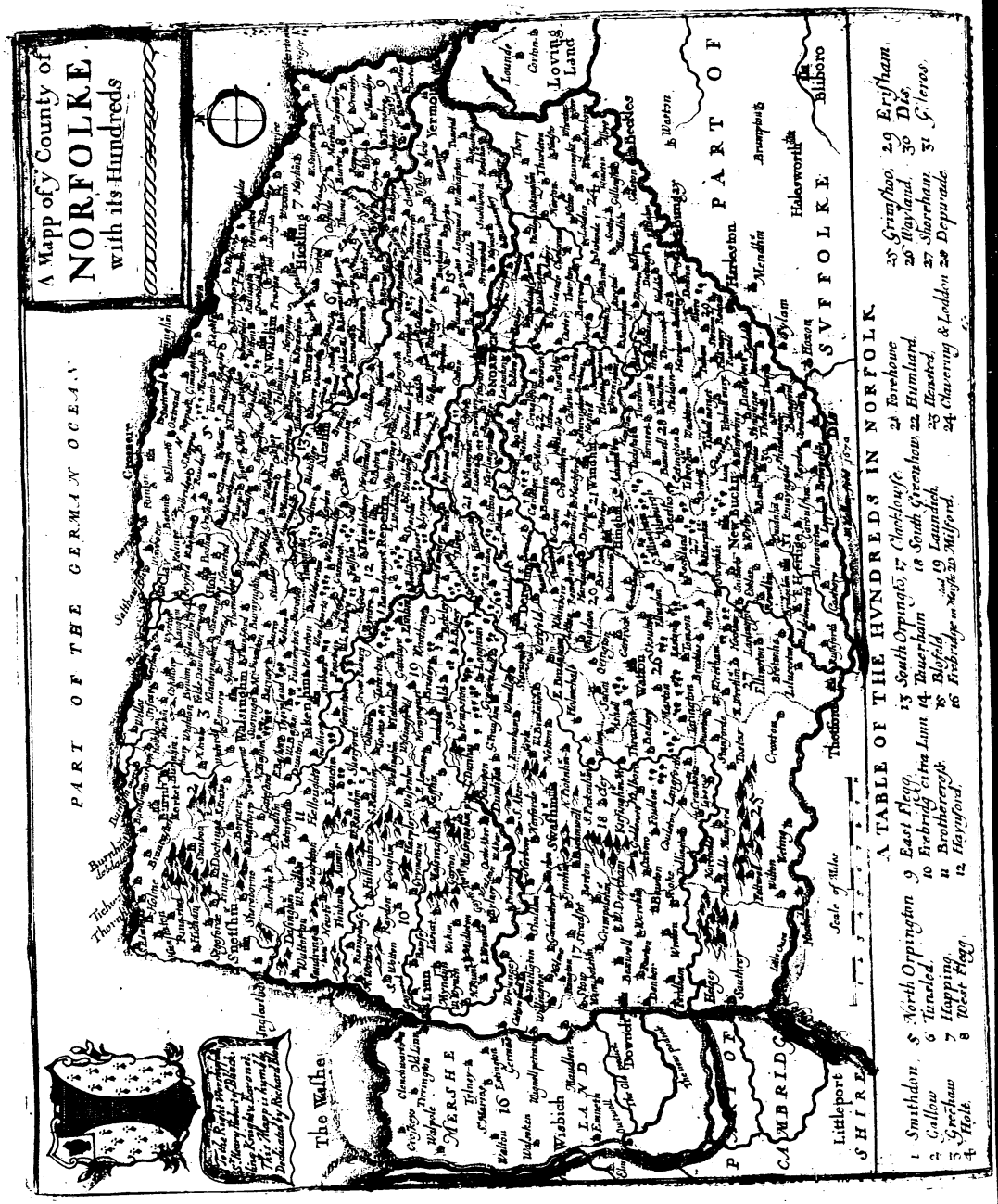
Monmouth.

Monmouth, no less pleasantly than commodiously seated on the banks of the *Wye* and *Munow*, which doth almost encircle it, over each of which is a Bridge. In the midst of the Town, near the Market-place, standeth a (once stately, but now ruinous) Castle. It is a fair, large, well built, and inhabited and frequented Town, enjoying large Immunities, and sendeth a *Burgess* to Parliament. It is governed by a *Major*, 2 *Bailiffs*, 15 *Common Councellors*, a *Town Clerk*, and other sub-Officers; and hath a considerable Market for Corn and Provisions on *Saturdays*.

Chepstow.

Chepstow, seated on the side of a Hill which is washed with the *Wye*, near its fall into the *Severn*; a Town formerly very famous, and of great resort, being





being said to be raised out of the ruins of *Venta Silurum*, the chief City of the *Silures*. It is a large, well built, inhabited and frequented Town, and hath a Market on *Saturdays*, which is very good for Corn and Provisions, and very considerable for *Swine*.

Carlion, or *Caerleon*, an ancient and flourishing City of the *Romans*, which is evidenced by the ruins of its stately Buildings; as *Palaces*, *Temples*, and *Theaters*, enclosed within fair Walls, the *Water-pipes*, *Vaults*, *Hot-houses*, and *Roman Coins* oft digged up. And here the Noble *Arthur* kept his Court; and here was a famous Colledge for 200 Students in *Astronomy*, and other the liberal Arts and Sciences. This Town (which is indifferent large) is commodiously seated on the banks of the *Uske*, over which it hath a large wooden Bridge; yet its Houses for the generality are built of Stone, and its Market (which is but indifferent) is on *Thursdays*. *Carlion.*

Uske, seated on a River so called; a large Town, beautified with well built Stone-houses, and hath a very good Market on *Mondays* and *Fridays*. *Uske.*

Abergavenny, seated at the meeting of the *Uske* and the *Keveny*, once a place of great strength: It is a large Town, hath well-built Houses, enjoyeth a good Trade for *Flunels* and *Straw-Hats*, here made in great plenty; and its Market, which is on *Tuesdays*, is very considerable for Cattle, Provisions, &c. *Abergavenny.*

The County of *NORFOLK* is of a different Soil, but may be comprised under two heads, to wit, *Champain* and *Wood-land*; yet notwithstanding about the Towns it is of a *Clayey*, *Chalkey*, and fat Earth, and not without Wood. That which is comprised under the head of *Champain* is along the Sea-Coasts, and from *Thetford* to *Burnham*, and so Westwards, and affords great plenty of Corn; and on the Heaths great flocks of *Sheep* are fed. The Wood-land part is chiefly for grasing; yet not without Corn ground. County of Norfolk.

The ancient Inhabitants known to the *Romans* were the *Iceni*, and afterwards became part of the Kingdom of the *Angles*.

The Commodities that this Country plentifully affordeth, are *Worsteds*, *Stockings*. *Norwich Stuffs*, and *Herrings*.

The chief Rivers that water this County are the *Owse*, *Waveny*, *Yare*, and the *Thryne*. It is generally well inhabited with *Gentry*, is very populous and full of *Towns* and *Villages*, numbring 660 *Parish Churches*, which are the most of any County in *England*; and is traded unto by 27 Market Towns.

Norwich, a City of great antiquity, and formerly of as great splendor when the Seat of the *East Angles*; since which it hath undergone several calamities by *Fire*, *Sword*, and *Pestilence*; and notwithstanding all its shocks of Ill fortune, it is at present a fair, large, and populous City, and enjoyeth a great Trade, especially for their *Stockings*, *Stuffs*, and *Manufactures* here made. It is commodiously seated on the banks of the *Yare*, which severeth it; but is joyned together by several Bridges, and in a pleasant Valley. It is about a mile and half in length, and almost of the like breadth, and is encompassed with a Wall (except on the side seated on the River,) and hath 12 Gates for entrance, and for Divine worship 32 *Parish Churches*, besides *Chapels*. Its chief buildings are the *Cathedral*, the *Bishops Palace*, the *Palace* of the Duke of *Norfolk*, the *Market-house*, the *Cross*, and the House of *Correction*, made of *Free-stone*. Here is an *Hospital* where 100 poor Men and Women are maintained. This City may not improperly be called an *Orchard in a City*, or a *City in an Orchard*, by reason of the pleasant intermixture of the Houses with Trees. It was first governed by 4 *Bailiffs*; but in the Reign of *Henry* the Fourth it was incorporated into a *Majoralty*, and made a County, whose limits extend to *Eaton-Bridge*. It enjoys several Immunities, sends *Burgesses* to Parliament, and is the See of a Bishop. Its Markets on *Wednesdays*, *Fridays*, and *Saturdays*, are very great, and well stored with *Corn*, *living Cattle*, *Leather*, *Yarn*, *Worsteds*, and all sorts of Provisions. Norwich.

Lynn. *Lynn*, or *Lynn Regis*, ſeated almoſt at the influx of the *Owſe* into the *Waſhes*; a fair, large, and well-built *Borough Town*, numbring 3 *Pariſh Churches*, of good antiquity, enjoying ample Immunities, which were granted them for their good ſervice againſt the outlawed *Barons* in the Iſle of *Ely*. It is governed by a *Major*, 12 *Aldermen*, hath a *Recorder*, *Sword-Bearer*, and other ſub-Officers, ſendeth its Repreſentatives to Parliament; for its defence, is encompaſſed about with a *Wall* and a deep *Trench*; is well watered, having 2 *Rivulets* which run through the Streets, which are paſſed over by 15 *Bridges*. It is well inhabited by *Merchants* and *Tradeſmen*, having a commodious Haven; and its Markets on *Tueſdays* and *Saturdays* are well ſerved with Commodities and Proviſions.

Yarmouth. *Yarmouth*, ſeated on the *Yare*, at its influx into the Sea. It is a place of great ſtrength, as well by Nature as Art, being eſteemed the Key of this Coaſt. The Town is large, yet hath but one Church, but that is ſo large that it ſerveth for two Miniſters. Its Buildings are good; it is a place of a great reſort, is well inhabited and traded unto, and the more as being the ready paſſage to *Holland* for the Packet-Boat, and other Veſſels. About this Coaſt great abundance of *Herrings* are caught in *September*, and as great quantities of *Mackerels* in the Summer ſeaſon. It is a *Town Corporate*, having for its chief Magiſtrates 2 *Bailiffs*; it enjoyeth ſeveral Immunities, and ſends *Burgeſſes* to Parliament. Its Market is on *Saturdays*, which is very great for Corn, Fiſh, and Proviſions.

Windham. *Windham*, ſeated in a dirty bottom, hath an indifferent good Market for Corn and Proviſions on *Fridays*; but chiefly for *Stockings*, *Wooden-Spoons*, *Tapps*, and *Spindles*, which are here made and ſold by the Inhabitants in great abundance.

Swaſham. *Swaſham*, ſeated on a Hill; a large and well built Town, full of *Inns*, and well inhabited by Shopkeepers, who drive a good trade. Its Market, which is on *Saturdays*, is very well ſerved with Corn and Proviſions, being eſteemed one of the beſt Market Towns in the County.

North Walſham. *North Walſham*, ſeated in a level, not far from the Sea; a fine Market Town, which on *Thurſdays* is well provided with *Corn*, *Fleſh*, and other Commodities.

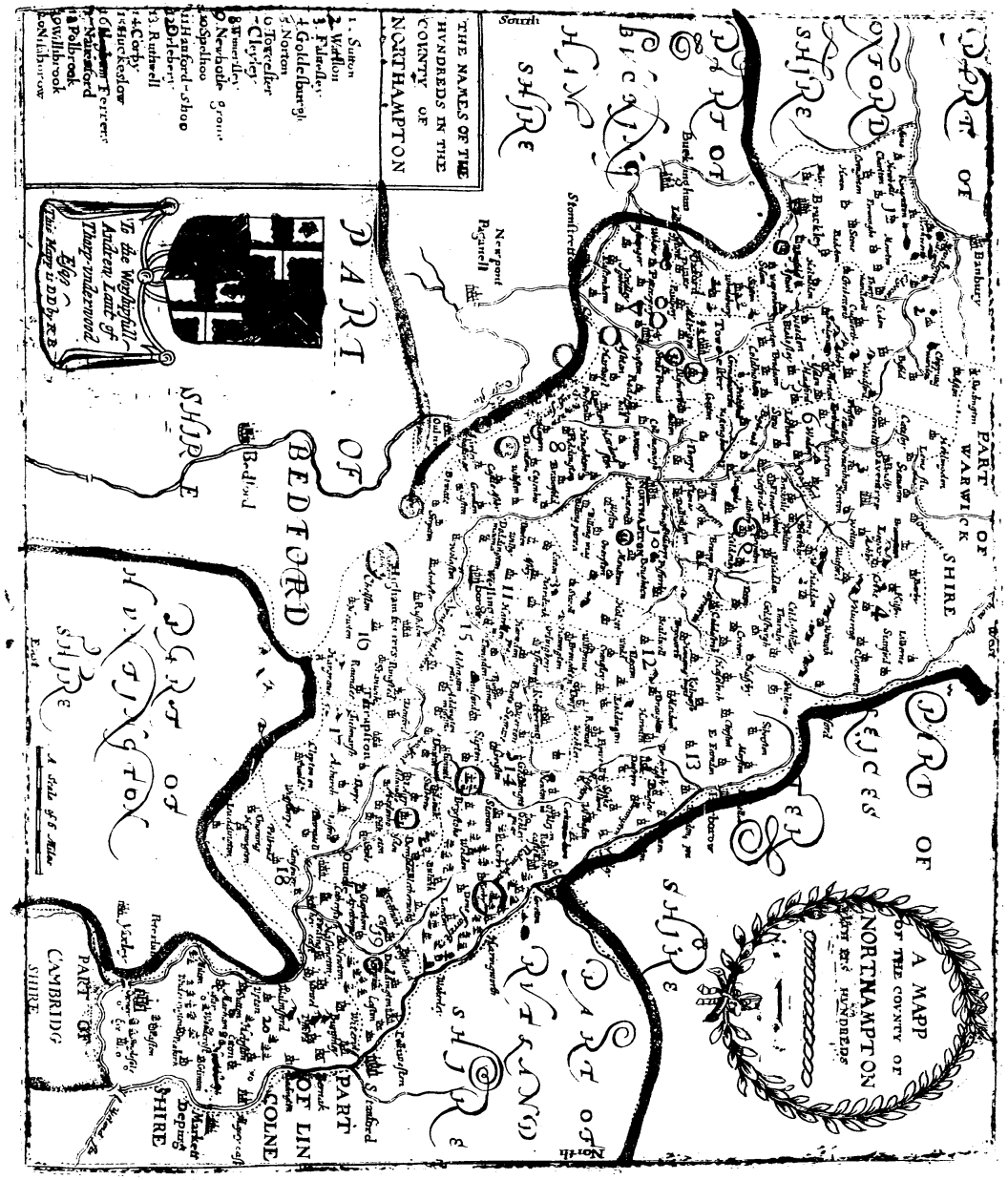
County of Northampton deſcribed. *NORTHAMPTON*, an Inland County, of a fat and rich Soil both for Tillage and Paſturage, every way recompencing the Husbandmans pains and induſtry, both for its excellent Grain, and for feeding and breeding of ſtore of *Sheep*, *Horſes*, and *Cattle*, inſomuch that here is obſerved to be leſs waſt ground than in any County in the Kingdom.

It is bleſt with a healthful Air; it is very populous and full of Gentry, inſomuch that in many places 20 or 30 *Steeples* preſent themſelves to view at one time.

It is well watered with Rivers and freſh Streams; as the *Welland*, the *Nen* or *Aufona*, the *Owſe*, *Charwel*, &c.

This County is ſevered into 20 *Hundreds*, in which are numbred 326 *Pariſh Churches*, and is traded unto by 11 *Market Towns*.

Northampton. *Northampton*, delightfully ſeated on the banks of the *Nyne*, which waſheth its South and Weſt parts, over which it hath two Bridges. It is a Town of good antiquity, and once very large; but this, as all other places in the Kingdom, felt the ſore hand of the *Dane*, with other Calamities, and lately it was laid in its Aſhes by a mercileſs Fire; but is again almoſt rebuilt, and will be of better luſtre than before. Its extent is large, numbring 4 *Pariſh Churches* within its Walls, which were of great ſtrength before their demoliſhment. On the Weſtern ſide of the Town, on an Eminency, is mounted a large *Caſtle*, but ſo ruinous that it ſeemeth ready to fall. It is a *Town Corporate*, ſendeth *Burgeſſes* to Parliament, is governed by a *Major*, 2 *Bailiffs*, 12 *Magiſtrates*, a *Recorder*, *Town Clerk*, with other ſub-Officers. It enjoyeth a very conſiderable Trade, is very well inhabited, being the place where the *Aſſizes* are kept, and the general place for the *Juſtices* of the *Peace* to meet





meet for the County; and its Market, which is on *Saturdays*, is very great for *Cattle*, *Corn*, *Provisions*, *Leather*, *Shoes*, and several Country Commodities.

Peterburgh, seated on the River *Ausona*, or *Nen*, (which is navigable for *Barges*, over which it hath a Bridge which leadeth to *Huntingtonshire*,) and in a Marshy ground. It is a City of great antiquity, and was of good account in the time of the *Saxons*; for it is said that *Wolpher*, King of the *Mercians*, for the expiating his crime in the cruel murthering his Sons *Wolphald* and *Rufin* for embracing the Christian Religion (to which he was some years after converted himself) in *Anno* 633. finished a most stately Monastery, and dedicated it to St. *Peter*, from which the City took its name, being before called *Madeshamstede*. It is at present a City of no great extent, having but one *Parish Church* besides its Cathedral, raised out of the Monastery, a stately structure; where lieth the Bodies of two unfortunate Queens, *Katherin* of *Spain*, and *Mary* of *Scots*. This City enjoyeth several Immunities, sends *Burgesses* to Parliament, is honoured with the Title of an *Earldom* and the Seat of a *Bishop*, as also of a *Dean*, who keepeth his Court for the hearing of Causes. Its Streets of late are indifferent well ordered, its Houses well built, and hath a spacious Market-place, well resorted unto on *Saturdays*. Peterburgh.

Not far from this City, Westwards, was seated the ancient City *Durobrivae*, called by the *English Saxons*, *Normanchester*.

Oundle, pleasantly seated on the banks of the *Nen*, over which it hath two good Bridges; a well built uniform Town, beautified with a fair Church, and a Free School; hath a very great Market for *Cattle*, *Corn*, *Flesh* and *Fowl* on *Saturdays*. Oundle.

Higham-Ferrers, scituated on an Ascent, and on the banks of the *Nen*; an ancient *Borough* and *Town Corporate*, governed by a *Major*, 7 *Aldermen*, 13 Capital *Burgesses*, a *Steward*, &c. is graced with a fair *Colledge*, hath a *Free School* for the education of Youth, and an *Alms-house* for the relief of poor People; and hath a Market on *Saturdays*, which is well resorted unto. Higham Ferrers.

Wellingborow, seated also on the *Nen*; a large and well inhabited Town, of some note for its Springs of *Medicinal-water*, not far distant from the Town. It is beautified with a fair *Church*, and a *Free School*; is a large and well inhabited Town, and hath a Market on *Wednesdays*, which is well served with Corn and Provisions. Wellingborow.

Daventry, seated on the side of *Borow-hill*; a good Town, governed by a *Bailiff*, *Aldermen*, a *Steward*, and 12 *Freemen*, and hath a Market on *Wednesdays*, which is well provided with *Horses*, *Cattle*, *Sheep*, *Corn*, and *Provisions*. Daventry.

Not far from this Town is *Wedon*, which was a Station of the *Romans*, and where there was a *Monastery* founded by the holy Virgin *St. Werberg*, Daughter of King *Wolpher*, who had here his Royal Seat.

Brackley, seated on a bank of the *Ouse*, and on the edge of the County towards *Buckinghamshire*; an ancient and large *Town Corporate*, containing two *Parish Churches*, had formerly a *Colledge*, now made use of for a *Free School*; is governed by a *Major* and *Aldermen*, sendeth *Burgesses* to Parliament, and hath a small Market on *Wednesdays*; which in former time was considerable, being the staple Town in the County for *Wool*. Brackley.

NORTHUMBERLAND, a County of a sharp and piercing Air, and much troubled with pinching *Frosts*, boisterous *Winds*, and deep *Snows*, which would be more troublesom to its Inhabitants, were it not for the great abundance of *Sea-Coal* here had in great plenty. County of Northumberland.

It is a County, for the most part, of an ungrateful Soil, being very rough, hilly, and very hard to be manured; but the parts towards the *Sea*, by the Industry of the Husbandman in manuring it with the *Sea-weed*, are indifferent fertil.

It is

It is well watered with *Rivers*, which (with the *Sea*) afford to the Inhabitants great plenty of *Fish* and *Fowl*.

In this County are numbred 46 *Parish Churches*, many of which are very large, having their *Chapels* of *Ease*, and is severed into 6 *Wards*; and for the accommodation of the Inhabitants is traded unto by 6 *Market Towns*.

The Inhabitants that possest this County before the *Romans*, were the *Ottadini*, and being brought to the Jurisdiction of the *English Saxons* by *Osca* Brother to *Hengist*, and by his Son *Jebusa*, had first official Governours under the fealty to the Kings of *Kent*: After that, when the Kingdom of the *Berenicii* was erected, that which reached from the *Scotish Frith* to the *Tees* (being the best part) was subject to the Kings of *Northumberland*, who having finished their period, that which lay beyond the *Tweed* passed for *Scotland*; then was it yielded up to *Egbert* King of the *West Saxons*, who laid it to his own Territory: and soon after the expulsion of the *Danes* it was governed by *Earls*.

This County sheweth abundance of Antiquities, not only along the *Picts Wall*, which runneth by its Southern part, but elsewhere; amongst which these following are worthy of note: *Bradsquire*, a steep Mountain, was oftimes the place of Conference for the *East Marshes*. The *Hermitage*, not far from *Wakeworth*, by the Waters, a Chapel cut out of a Rock, without *Beams*, *Rafters*, or any piece of Timber, and the *Altar* was also hewed out of the same Rock; and this was the place of devotion for a *Hermit*, who lived in a *Cell* within the Rock. *Risingham*, seated on the River *Rhead*, a place of great Antiquity, which ('tis said) *Gad-Magon* for sometime defended against a certain *Soldan*, or *Heathenish Prince*. Through the *Picts Wall* runneth the *Tyne*, which watereth two *Dales*, each having their Hills so boggy, with standing Water on the top, that no Horse-man is able to ride through them; and yet in many places are great heaps of Stones (called *Cairs*) supposed to be cast up in memory of some persons there slain.

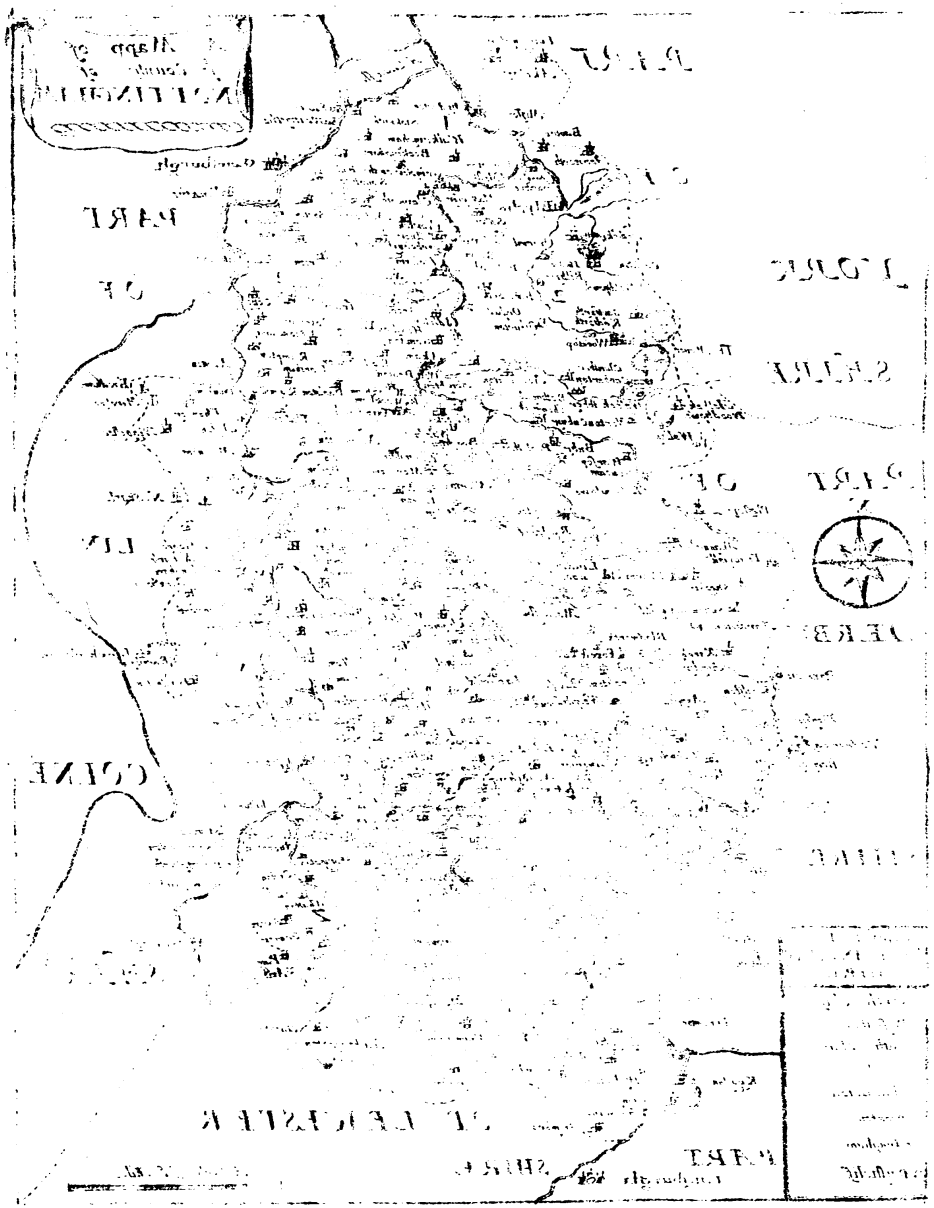
The chief places are,

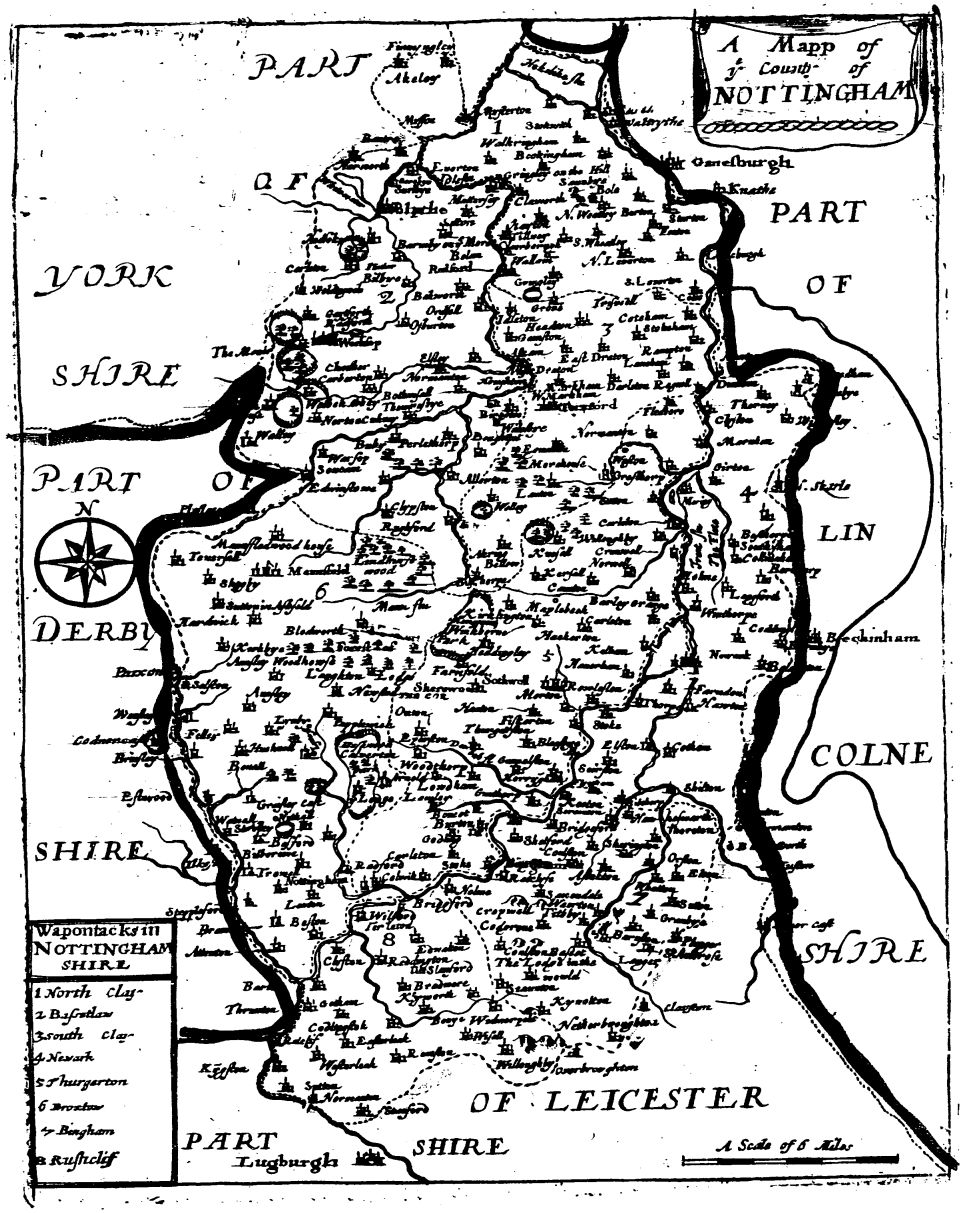
Newcastle. *Newcastle*, scituate on an Eminence, and on the North banks of the *Tyne*, over which it hath a fair Bridge. This Town before the *Conquest* was called *Monk-chester*, as being in the possession of *Monks*; which name was changed to *Newcastle* by *Robert*, Son to *William* the *Conquerour*, from a *Castle* there built by him. It is a Town and County of it self, being incorporated and governed by a *Major*, 12 *Aldermen*, a *Recorder*, and other sub-Officers; and amongst its Immunities sends its Representatives to Parliament; 'tis a place of good largeness, numbring 4 *Parish Churches*, besides one in *Gates-head*; it is beautified with good Buildings, and by reason of its deep and secure Haven is much inhabited and frequented by *Merchants* and *Tradesmen*, having several Vessels belonging to the Town, but is of chief note for its *Coal* trade. It is a place of great strength, for besides its *Castle*, now something ruinous, it is begirt with a strong Wall, on which are many Turrets, and hath for entrance 7 Gates. Here are weekly two Markets, on *Tuesdays* and *Saturdays*, which are both very considerable for all sorts of Provisions.

Morpeth. *Morpeth*, scituate on the *Wensbeck*; a very fine incorporated Town, governed by 2 *Bailiffs*, and sendeth *Burgesses* to Parliament. It is strengthned with a *Castle*, and hath a Market on *Wednesdays*, which is esteemed the best in the County for *Corn*, *Cattle*, and *Provisions*.

Barwick. *Barwick*, commodiously seated betwixt *England* and *Scotland*, but on the North or *Scotish* side of the *Tweed*, over which it hath a stately Bridge, sustained by 14 or 15 Arches, being a Town and County of it self. It is a place of great strength, as well by Nature as Art, being almost encompassed with the *Sea* and the *Tweed*, and strongly fenced about with *Walls*, a *Castle*, and other Fortifications, as being a place of such great importance to *England*. It is a *Town Corporate*, governed by a *Major*, *Bailiffs*, and *Burgesses*, and hath the election of *Parliament men*. It is large and populous, its Houses well built, enjoyeth a good Trade, especially for *Salmon* and *Corn*, and its Market on *Saturdays* is very considerable.

Along




A Mapp of
y^e County of
NOTTINGHAM
PART
OF
YORK
SHIRE
PART OF
DERBY
SHIRE
PART OF LINCOLN SHIRE
PART OF LEICESTER SHIRE
COLNE
Gainsburgh
Knaithe
Beckinham
Lugburgh
N
Wapontacks in
NOTTINGHAM
SHIRE
1 North Clay-
2 Bassetlaw
3 South Clay-
4 Newark
5 Thurgerton
6 Broxtow
7 Bingham
8 Rushcliff
A Scale of 6 Miles



Along the Coast of this County are the Isles of *Cockes*, *Fern*, and *Holy Isle*, which are small Isles of a barren and ungrateful Soil, and but thinly inhabited.

County of Nottingham.

NOTTINGHAM, a County blest with a wholsom Air; its Soil is different, the South-east part, which is watered with the *Trent* and other fresh Streams, is most fertil and apt for *Corn* and *Graß*, and is called the *Clay part*; and the Western part, wherein is the Forest of *Shirwood*, a large tract of ground, which is well clothed with Wood, and provided with Game; and this part, from the temperature of the Earth, is called the *Sandy part*.

This County produceth a Stone softer than *Alablaster*, but being burnt maketh a Plaister harder than that of *Paris*, with which they floor their upper Rooms.

The form of this Shire is oval, doubling in length twice its breadth. It is severed into 8 *Hundreds* or *Wapontacks*, in which are numbred 168 *Parish Churches*, and hath intercourse of traffick with 9 *Market Towns*.

Nottingham. *Nottingham*, commodiously seated on an Eminence and on the banks of the *Leane*, which at a small distance loseth it self in the *Trent*, over each of which Rivers there is a fair *Stone-bridge*, besides two others over two Ponds, called the *Cheney Bridges*. It is a large Town, numbring 3 *Parish Churches*, is repleniſhed with well built Houses; its Streets are fair, and graced with a spacious Market-place; on the West side of the Town is the *Castle*, which (before its defacement in the late Wars) was a place of great strength and importance. It is a Town of good antiquity, and amongst its places of remark here are many strange *Vaults* hewed out of the Rocks, especially under the *Castle*, which are descended by divers steps, and have their several Rooms and Stairs artificially made; also in the Hill are Houses, with *Rooms*, *Chimneys*, *winding Stairs*, and *Windows*, wrought out of the solid Rock. This Town enjoys several Immunities, electeth *Burgesses* for Parliament, is governed by a *Major*, 6 *Aldermen*, 2 *Sheriffs*, a *Town Clerk*, and other sub-Officers; it enjoyeth a good Trade, is well inhabited and frequented, and hath weekly 3 Markets, *viz.* on *Wednesdays*, *Fridays*, and *Saturdays*, which is very considerable for *Cattle*, *Corn*, and *Provisions*.

Newark. *Newark*, scituate on the high Road to *York*, and on the *Trent*, over which it hath a Bridge. It is a good large *Town Corporate*, governed by an *Alderman* and 12 *Assistants*, is well inhabited, enjoyeth a good Trade, and hath a considerable Market for *Corn*, *Cattle*, and Provisions on *Wednesdays*.

Mansfield. *Mansfield*, scituate in the Forest of *Sherwood*; a well inhabited, well built, and large Town, enjoying a good Trade for *Mault*, and hath a very considerable Market for *Corn*, *Cattle*, *Mault*, *Swine*, and Provisions on *Thursdays*.

Redford. *Redford*, scituate on the River *Idel*; an ancient *Town Corporate*, which electeth *Burgesses* to Parliament, is governed by 2 *Bailiffs*, 6 *Aldermen*, and a *Steward*, and hath a great Market for Corn and Provisions on *Saturdays*.

County of Oxford described.

The County of *OXFORD* is blest with a delectable Air, which doth occasion it to be much inhabited by *Gentry*; and the rather, as being of a fertil Soil for *Corn* and *Fruits*, well stored with *Cattle*, and interlaced with pleasant Hills, wherein (and in the Downs) are found variety of Game. It is well watered with Rivers, as the *Owse*, or *Isis*, the *Tame*, *Cherwel*, *Windrush*, and *Ebenlode*.

It is divided into 14 *Hundreds*, in which tract is seated 280 *Parish Churches*, and is traded unto by 12 *Market Towns*, and graced with a beautiful and stately City.

Oxford. *Oxford*, the Seat of the *Muses*, exceeding all Universities in the World, except her Sister *Cambridge*. It is a place of great antiquity, said to be consecrated unto Learning in the time of the Old *Britains*; and was much cherished and countenanced by King *Elfred*, who sent thither his Son *Ethelward*

on

on purpoſe to invite the young Nobles to ſtudy the *Arts* and *Sciences*. It is a City commodiouſly ſeated both for pleaſure and profit between the *Iſis* and the *Charwel*, which encompaſſeth three parts of the City, over which for the convenience of paſſage it hath ſeveral Bridges. The City is large, numbring 14 *Pariſh Churches* beſides its *Cathedral*, a large Structure, and is at preſent a fair and ſtately City, adorned with well-built Houſes, and beautified with divers curious Structures, as the *Kings Palace*, now the *Mannor Houſe*, the 16 *Colledges*, 8 *Halls*, the *Schools*, wherein is a ſtately *Library*, and *Theater* newly erected. It enjoyeth ample Immunities, keepeth *Courts* for all Actions without limitation of ſome; hath the election of 4 *Burgeſſes*, 2 for the Univerſity, and 2 for the City. It is a place very populous, and well reſorted unto, hath weekly two Markets, on *Wedneſdays* and *Saturdays*, which is the chief, and very conſiderable for Proviſions and all ſorts of Grain, eſpecially *Barly*; and alſo enjoys a great trade for *Mault*.

Burford. *Burford*, ſcituate on an Aſcent near the Downs, and on the River *Windruſh*, which ſpringeth out of the *Cotſwold*; a large and fair *Town Corporate*, governed by two *Bailiffs*, and other ſub-Officers, and hath a well frequented Market for *Corn*, *Cattle*, and *Proviſions* on *Saturdays*; and is of chief note for *Saddles* here made.

Woodſtock. *Woodſtock*, a well compacted *Borough-Town*, governed by a *Major*, 4 *Aldermen*, &c. enjoyeth ſeveral Immunities, ſends *Burgeſſes* to Parliament, and hath an indifferent good Market on *Tueſdays*. It is delightfully ſeated, and of ſome note for its large *Park*, wherein was *Woodſtock-Bower*, built by King *Henry* the firſt, and where he kept his Miſtreſs, the beautiful *Roſamond Clifford*, which was here poyſoned by his enraged Queen *Elianor*.

Banbury. *Banbury*, ſeated on the *Cherwel*, and in a Flat; a pretty large, wealthy and beautiful *Town Corporate*, governed by a *Major*, 12 *Aldermen*, &c. ſends *Burgeſſes* to Parliament; hath a very conſiderable Market for *Cattle*, *Sheep*, and *Proviſions* on *Thurſdays*, and is of ſome note for its *Cakes* and *Cheeſe*.

Tame. *Tame*, pleaſantly ſeated on the River ſo called, which (with its branches) doth almoſt encompaſs it, and over which it hath a Bridge which leadeth into *Buckinghamſhire*. It is a large Town, having one ſpacious Street, in the midſt of which is the Market-place; and its Market, which is on *Tueſdays*, is well reſorted unto by *Graſiers* and *Butchers*, from *London* and other parts, it being very conſiderable for *Cattle*.

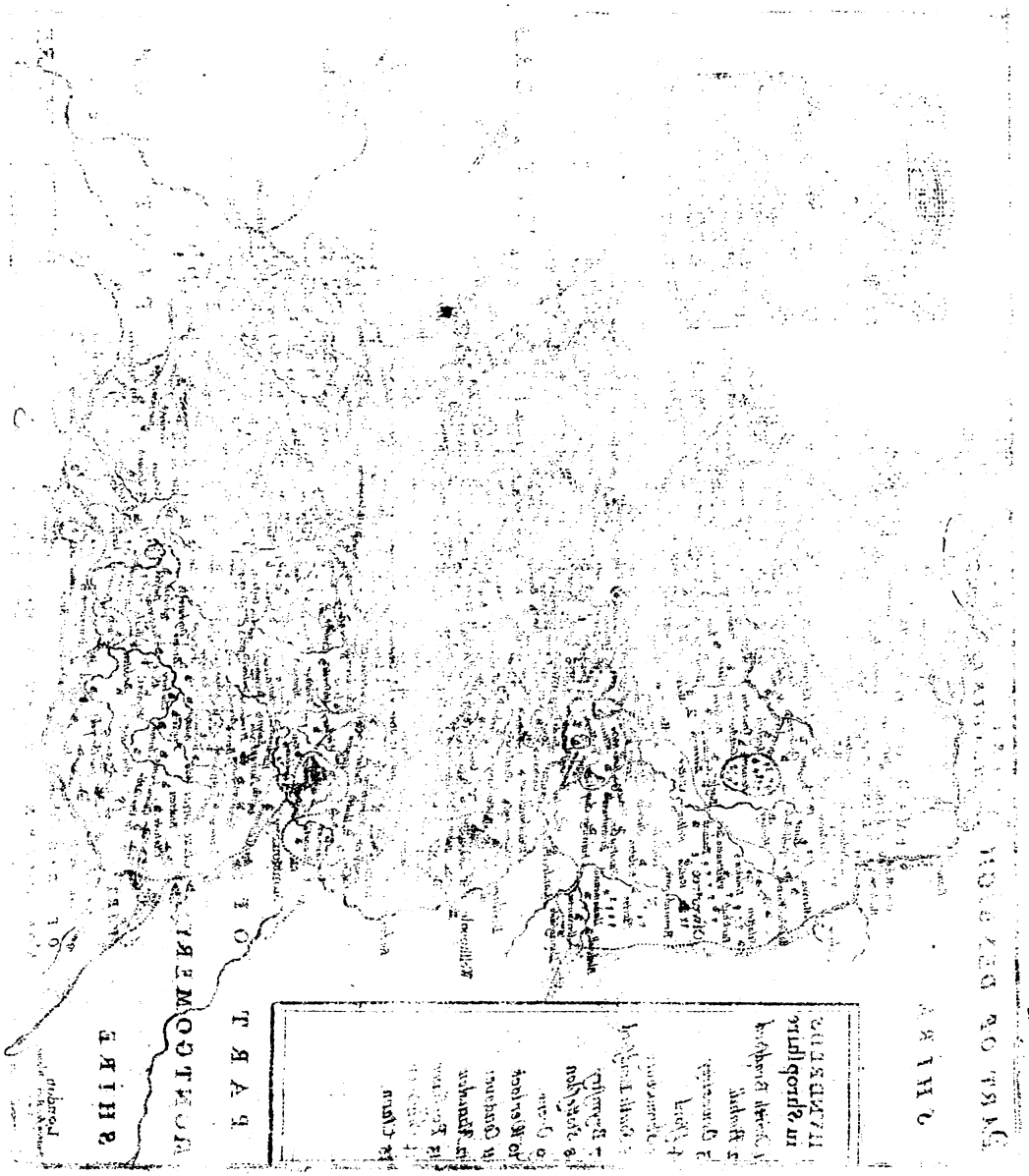
Henley. *Henley*, or *Henley upon Thames*, as being thereon ſeated, over which it hath a fair Bridge; a large *Town Corporate*, governed by a *Warden* for its chief Magiſtrate, enjoyeth a conſiderable trade for *Maulting*, and much inhabited by *Bargmen* and *Watermen*, who are employed for the carrying of *Mault*, *Wood*, &c. to *London*; and in return, bring ſuch commodities as they and the Neighbourhood have occaſion of. Its Market is on *Thurſdays*, which is very conſiderable for Corn, eſpecially *Barly*, there being oft-times about 300 Cart-loads ſold in one day.

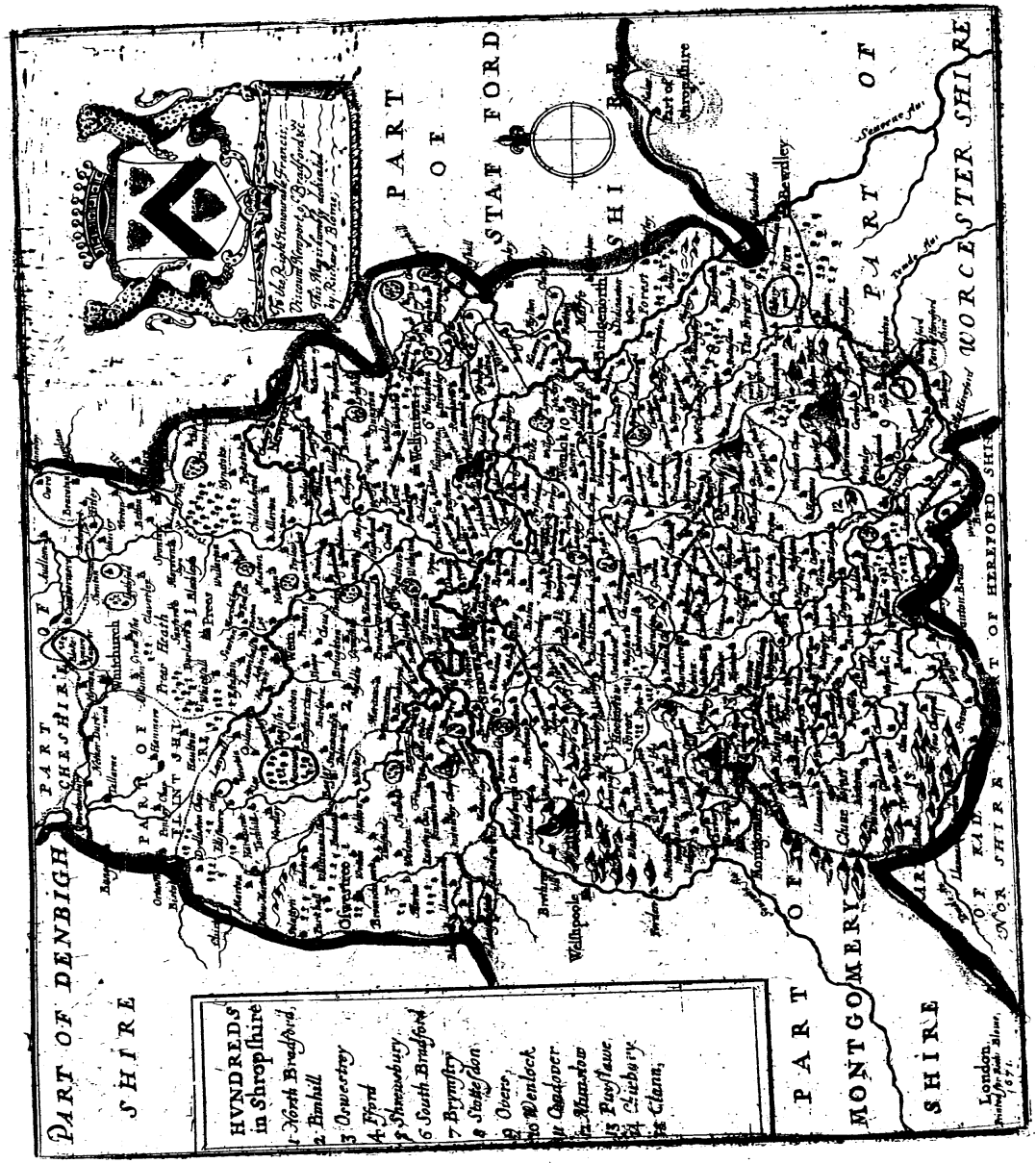
County of *Rutland* deſcribed. *RUTLAND*, the ſmalleſt County in the Kingdom, making in circumference not above 40 miles; and although for quantity the leaſt, yet for quality may be compared with the beſt, being of a very fertil Soil both for tillage and paſturage, eſpecially about the Vale of *Catmoſe*. It is well clothed with *Wood*, watered with freſh *Streams*, is bleſt with a ſweet *Air*, and hath more *Parks* (conſidering its extent) than any County in *England*.

This County is ſevered into five *Hundreds*, in which are 48 *Pariſhes*, and hath two *Market Towns*; *viz.*

Oakham. *Oakham*, ſcituate in the rich and pleaſant Valley of *Catmoſe*; and although not large, yet is the *Shire Town*, where the *Aſſizes* and *Seſſions* are held; its Buildings are indifferent good, eſpecially its *Church*, *Free School*, and *Hoſpital*; here is an old decayed *Caſtle*, which is now made uſe of for the *Aſſizes*. It hath a Market on *Saturdays*, which is indifferently well ſerved with Proviſions.

Upingham,





Upingham, highly ſeated; a neat compacted and well built Town, hath the accommodation of a *Free School*, and an *Hoſpital*; and its Market, which is on *Wedneſdays*, is well reſorted unto, and ſerved with living Cattle, Corn, and Proviſions. *Upingham.*

SHROP-SHIRE, being a frontier County to *Wales*, is well repleniſhed with *Towns* and *Caſtles*, the better to over-awe the *Welſhmen* in the bordering *Marches*: and divers Noblemen in this tract were called *Barons* of the *March*, and enjoyed in their Territories certain Priviledges, and held *Courts* for the adminiſtring of Juſtice. County of Salop deſcribed.

This County is of a fertil Soil both for Tillage and Paſturage, abounding in *Wheat* and *Barly*, is well clothed with *Wood*, feedeth good ſtore of *Cattle*, and in the bowels of the Earth are Mines of *Iron* and *Pit-Coal*. It is well watered with Rivers, as the *Tern*, *Clun*, *Rea*, *Teame*, *Roden*, and *Severn*, being the chief, which in a crooked paſſage ſevereth the Shire in the midſt. It is very Hilly and Mountainous, eſpecially towards the Southern and Weſtern parts.

In this County are 170 *Pariſh Churches*, and hath for its Towns of chief note,

Shrewsbury, raiſed out of the ancient *Uriconium*, the Seat of the Princes of *Powis*, until forced thence by the *Saxons*. It is pleaſantly ſeated on an eaſie Aſcent, and on the banks of the *Severn*, which almoſt encompaſſes it. It is a place which for largeneſs, numbring 5 *Pariſh Churches* beſides a *Chapel*, neatneſs of Buildings, both publick and private, largeneſs and variety of Streets, and populouſneſs, may be ſet down in the rank of Cities. It is a Town of good ſtrength, as well by Nature as Art, being fenced about with a ſtrong *Wall*, defended by a *Caſtle*, *Bulwarks*, and other Fortifications. It is a place of a great reſort, and well inhabited both by *Engliſh* and *Welſh*, and enjoyeth a great Trade for *Cloths*, *Cottons*, *Frizes*, and ſeveral other commodities; this place being the common Mart between *England* and Middle *Wales*. The Town enjoys large Immunities, keepeth Courts, ſendeth its Repreſentatives to Parliament, hath a large *Free School*, is governed by a *Major*, 24 *Aldermen*, 48 *Common Council-men*, a *Recorder*, *Town Clerk*, with other ſub Officers; and hath weekly 3 Markets, on *Wedneſdays* for Proviſions, on *Thurſdays* for *Cottons*, *&c.* here ſold in great abundance, and thence ſent to *London*; and on *Saturdays* for Cattle, and all ſorts of Proviſions in great plenty. *Shrewsbury.*

Oſweſtre, ſo called from *Oſwald* King of the *Northumbers*, who was here ſlain in a Battel, and cruelly torn in pieces by *Penda* the Pagan *Mercian* Prince. It is a Town *Corporated*, governed by two *Builiffs* and *Burgeſſes*; and before the Mart for *Welſh Cottons* was hence removed to *Shrewsbury*, was of greater account than now it is; yet is it of ſome trade for *Flannels*, and its Market, which is on *Mondays*, is well reſorted unto, and furniſhed with Cattle and Proviſions. *Oſweſtre.*

Wenlock Magna, ſeated in the road from *Worceſter* to *Shrewsbury*; a *Town Corporate*, governed by *Bailiffs* and *Burgeſſes*, hath the election of *Parliament men*, is of ſome note for its *Lime* and *Tobacco-pipes*, here made in great plenty; and hath a very good Market on *Mondays* for Corn and Proviſions. *Wenlock Magna.*

Bridgnorth, a large *Town Corporate*, governed by 2 *Bailiffs* and *Burgeſſes*, and hath the election of *Parliament men*. It is ſeated on the *Severn*, over which is a fair *Stone-bridge*, is well inhabited, containeth 2 *Pariſh Churches*, and hath a good Market for *Corn*, *Cattle*, and *Proviſions*. *Bridgnorth.*

Ludlow, ſeated on the *Temd*, a Town more fair than ancient, being beautified with divers good Buildings, amongſt which is the *Palace* of the Preſident of the *Marches*. It is a large *Town Corporate*, governed by *Bailiffs* and *Burgeſſes*, hath the election of *Parliament men*, and hath a very great Market for Corn, Cattle, and Proviſions on *Mondays*. The Town is ſtrong, being defended by a *Wall* and *Caſtle*, is very populous and well inhabited, and is of *Ludlow.*

chief note, for being the place where the Courts for the *Marches* of *Wales* are kept, for the easment of the *Welsh* and Neighbouring Inhabitants; and here Prince *Arthur* kept his Court.

County of *Somerset* described.

SOMERSET, a large and wealthy County, and of a rich and fertil Soil both for Tillage and Pasturage; yet not without Stony-hills. It is exceeding populous, and well frequented, occasioned through its commodious Havens and Sea-port Towns, and is every where well watered with Rivers; as the *Severn*, *Avon*, *Parret*, *Frome*, *Brue*, *Ivel*, &c. which with the *Sea* plentifully serveth the Inhabitants with excellent *Fish*. As to the bounds, extent, and division of the Shire into *Hundreds*, see the Table.

This County hath been the Theater of divers bloody Battles; for instance, at *Pen*, near *Cadbury*, *Edmond*, surnamed *Iron-sides*, gave the *Danes* a notable foyl in his pursuit of *Canutus* the then Usurper of the *English Crown*. Not far from *Bridgwater*, *Ealstan* Bishop of *Sherbourn*, gave a great overthrow to the *Danish* Camp. At *Cadbury* King *Arthur* obtained a great and memorable Victory against the *English Saxons*: And near this place *Keniwalsh*, a *West Saxon*, obtained the like Victory against the *Brittains*, to their ever after dread of the *English Saxons*. And not far from *Banes-down* King *Elfred* gave the *Danes* such an overthrow, that constrained them to a submission, and caused *Godrus* their King to be baptized, and was his Godfather.

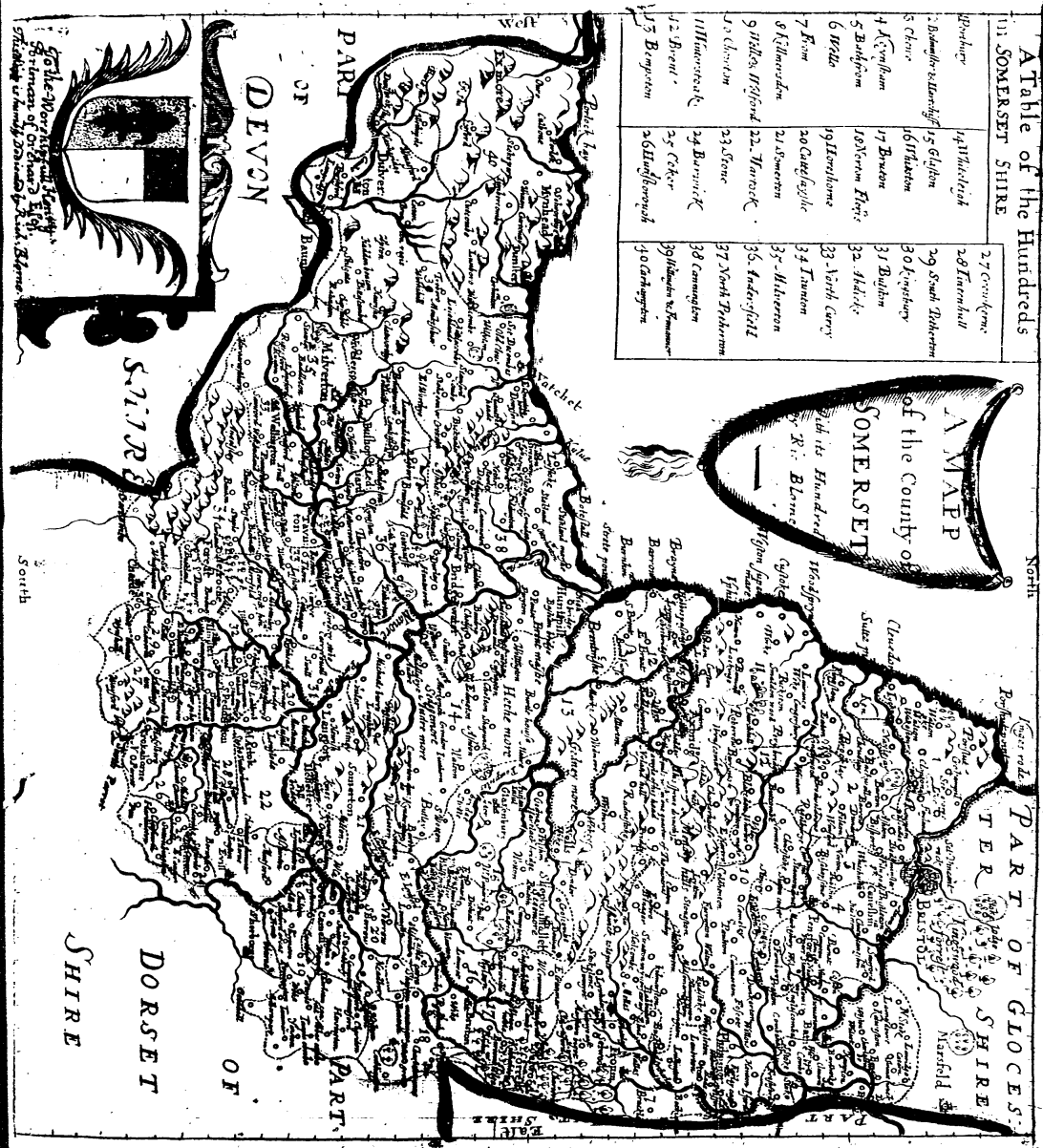
In this County are numbred 385 *Parish Churches*, and hath intercourse of Traffick with 30 *Market Towns*.

Bristol, a City part in this County, and the greatest part being in *Glocestershire*, it is there treated of, and therefore omitted here.

Bath. *Bath*, seated on the *Avon*, over which it hath a fair *Stone-bridge*, and in a low and small Plain, which is encircled with Hills, out of which issue forth several Springs, which pay their Tribute to this City. It is a City of great Antiquity, as doth appear by the many *Roman Inscriptions* and *Images* commonly found in the Walls which encompass it; and where the *Abby* standeth was a Temple consecrated to *Minerva*, the Goddess of *Fountains* and *Baths*. It is a fair and neat City, replenished with well-built Houses, for Divine worship hath at present but one *Parish Church* besides its *Abby* or *Cathedral*, a superb Building. It is governed by a *Major*, *Aldermen*, *Common Council*, with other sub-Officers, enjoyeth several Immunities, sendeth its Representatives to Parliament, and hath two Markets weekly, on *Wednesdays* and *Saturdays*, which are well served with Corn and Provisions; it enjoys a good trade for its *Clothing* here made, and is a place well inhabited and resorted unto, and the rather for its *Medicinal Baths*, for the curing of several diseases in the body of Man. Of these *Baths* there are four, and the Water, as to heat, is of a different temperature: The *Cross-Bath*, which is of a temperate heat, is enclosed with a *Wall*, and about the sides are placed 12 Seats of *Stone*. The second is of a much hotter temperature, and therefore called the *Hot-Bath*: Adjoyning to these *Baths* is a *Spittle-house*, for the relief of poor diseased people. The third and fourth (as joyned together) are the greatest and best, being seated near the Abby, and called the *King* and *Queens Baths*; they are enclosed with Walls, and have 32 Seats made of Arched-work, and so ordered that Men and Women sit apart.

Wells. *Wells*, seated at the foot of a Hill, so called from the *Springs* and *Wells* there springing up; a small City, but well inhabited, and of a good account, being dignified with an *Episcopal See*, under whose Jurisdiction is that of *Bath*. It is garnished with fair and stately Buildings, both publick and private, as its *Cathedral*, dedicated to *St. Andrew*, a beautiful Pile of building; the *Bishops-Palace*, adjoyning to the *Cathedral*, built Castle-wise; then the *Prebendaries Houses*, and the *Market-house*, sustained by Pillars. It is governed by a *Major*, 7 *Masters*, 16 *Burgesses*, a *Recorder*, *Town Clerk*, &c. enjoyeth several Immunities, sends *Burgesses* to Parliament, and hath weekly 2 Markets, *viz.* on *Wednesdays* and *Saturdays*, which are well served with Provisions.

Pensford,





Pensford, seated on the River *Chue*, near its falling into the *Avon*; a Town of good account, and much inhabited by *Hatters* and *Bakers*. It hath a Market on *Tuesdays*, which is well served with Corn and Provisions. Pensford.

Glassenbury, seated near the *Tor*; a good Town and hath a Market on *Tuesdays*, which is well served with *Corn*, *Fowl*, *Fish*, and other Provisions. This place is of note for its once famous and stately Abby of *Glassenbury*; where (as 'tis reported) the Body of *Joseph* of *Arimathea*, whom *Philip* the Apostle of the *Gauls* sent into *Britain* to preach the Gospel of Christ, lieth interr'd; and here King *Inas* built a fair and stately Church, and in the Church-yard was the Sepulchre of King *Arthur*. Glassenbury.

Near adjoyning, on a high and steep Hill is placed a Tower, now called *Glassenbury-Tor*, which commandeth a great prospect round-about, and serveth as a *Land-mark* to Sea-men; and on the top thereof the last *Abbot* was hanged by command of King *Henry* the Eighth.

Bruton, seated on the River *Brew*; a well built and inhabited Town, of a good trade for *Clothing*, *Searges*, and *Maulting*, and hath a very great Market for Provisions, &c. on *Saturdays*. The Town is graced with a very beautiful *Church*, hath a *Free School*, founded by King *Edward* the Sixth, and a most goodly *Alms-house*, that hath rather the resemblance of a *Colledge* than an *Hospital*. Bruton.

Evill, or *Teovell*, a *Borough Town*, governed by a *Port-Reve*, and keepeth Courts for the trial of Actions. It is seated on a River so called, and hath a very considerable Market on *Fridays* for *Corn*, *Cheese*, *Hemp*, *Flax*, and *Provisions* in great plenty, taking its rise from the decay of *Ilchester*, near adjoyning. Evill.

Ilchester, a Town of great antiquity, and in former times of as great strength; for at the coming of the *Normans* it was so populous that it had in it 107 *Burgesses*, and numbred 16 *Parish Churches*; but at present it hath but two *Churches*. It is a *Town Corporate*, governed by a *Bailiff* and 12 *Burgesses*, hath the election of *Parliament men*, is the place where the *County Goal* is kept, and hath a pretty good Market on *Wednesdays*. Ilchester.

Taunton, pleasantly seated on the *Tone*, which is navigable for *Barges* within three miles of the Town, where it hath a fine Bridge. It is a very fine, neat, and well-built Town, graced with spacious Streets, containeth 2 *Parish Churches*; is well inhabited both by *Gentry* and *Tradesmen*, especially *Clothiers*, who drive a considerable Trade for *Searges* and *Clothing*, being esteemed the best Town in the County; and its Markets, on *Wednesdays* and *Saturdays*, are very great, and well provided with *Corn*, *Flesh*, *Fish*, and *Fowl*. It was formerly a *Major Town*, but at present a *Bailiwick*. Taunton.

Bridgwater, seated on a navigable River, over which it hath a fine *Stone-bridge*. It is a large, well frequented and inhabited *Borough Town*, hath the election of *Parliament men*; is governed by a *Major*, and other sub-Officers; was formerly a place of good account, having a *Castle* and an *Abby*. Its Market is on *Thursdays*, which is well served with *Corn* and *Provisions*, and in the Summer season with *Cattle*. Bridgwater.

Mynehead, seated on the Sea-shoar; a *Borough Town*, electing *Parliament men*, hath a very good harbour for Ships of a considerable burthen to ride in, and is a place of some Trade, especially into *Ireland*; yet its Market is but small. Mynehead.

The County of *STAFFORD*, seated much about the midst of *England*; of a healthful Air, and different Soil, the Southern parts being generally barren, as *sandy*, *gravelly*, or *heathy*, except on the banks of the Rivers; yet by the Husbandmans pains in manuring it, it beareth good Corn; and the Northern parts are *hilly*, and full of grat *Heaths* and *Moors*, and is made use of for feeding of *Cattle*: And although an Inland County, yet by reason of the many *Rivers* and *Brooks* it is plentifully furnished with excellent Fish. To speak of the Country in general, there are more *Heaths*, *Moors*, and *wast Ground*, than in any County in *England*, as to its bigness, insomuch that County of Stafford.

you may go the whole length of the County and see little but *Heaths* and *Moors*; but these are not without profit, as breeding store of *Sheep*, *Conies*, and *Deer*, as well as pleasure for the Gentleman, both for the *Hawk*, *Gun* and *Hound*; and for *Parks* and *Warrens* few Counties doth exceed it. The Commodities that this Shire affordeth to others, are *Cattle*, *Sheep*, *Horses*, *Butter*, *Cheese*, *Wool*, *Bacon*, *Iron*, *Iron-ware*, chiefly *Nails*, *Alablaster*, &c.

The number of *Parishes* are 130, and hath 18 *Market Towns*, many of which are of considerable account.

Litchfield. *Litchfield*, a City and County of it self, seated in a pleasant Champain Country, divided from the *Cathedral* and *Close*, but joyned together by two *Bridges* and *Causeys*. It is a City of great antiquity, formerly called *Lictfeld*, that is, *the Field of dead Bodies*, which name it had from the great number of *Christians* there slain in the *Diocletian Persecution*: and here *Oswin*, King of the *Northumbers*, having vanquished the *Pagan Mercians*, erected a *Church*, and made it the Episcopal See of *Duina* the Bishop, which afterwards was made an *Archiepiscopal Pale* by Pope *Hadrian*, in the Reign of King *Offa*, which dignity expired with his life. This City is well built, is indifferent large, containing 3 *Parish Churches* besides its *Cathedral*, a beautiful and curious Structure, adjoyning to which is the *Bishops Palace*, and the *Prebends-houses*: the Streets are paved and well ordered, and is a place much frequented by *Gentry*. It is governed by 2 *Bailiffs*, a *Sheriff*, (which are elected out of 24 *Burgesses*) a *Recorder*, *Town Clerk*, with sub-Officers; and amongst its Immunities sends *Burgesses* to Parliament. Its Markets are on *Tuesdays* and *Fridays*, which are plentifully served with Corn and Provisions.

Stafford. *Stafford*, well seated on the River *Sowe* amongst rich Meadows; a fair Town, indifferent large, containing 2 *Parish Churches*, hath a *Free School*, and a fine square *Market-place*, in which the *Shire-Hall* is kept for the *Assizes* and *Sessions* of the County; the Streets are paved and well ordered, and its Houses well built; it is governed by a *Major* and *Burgesses*, hath a *Recorder*, *Town Clerk*, and 2 *Serjeants* at *Mace*. The Town enjoys large Immunities, sends *Burgesses* to Parliament, is well inhabited and frequented, and its Markets, which is on *Saturdays*, is well served with *Corn*, *Flesh*, and other Provisions.

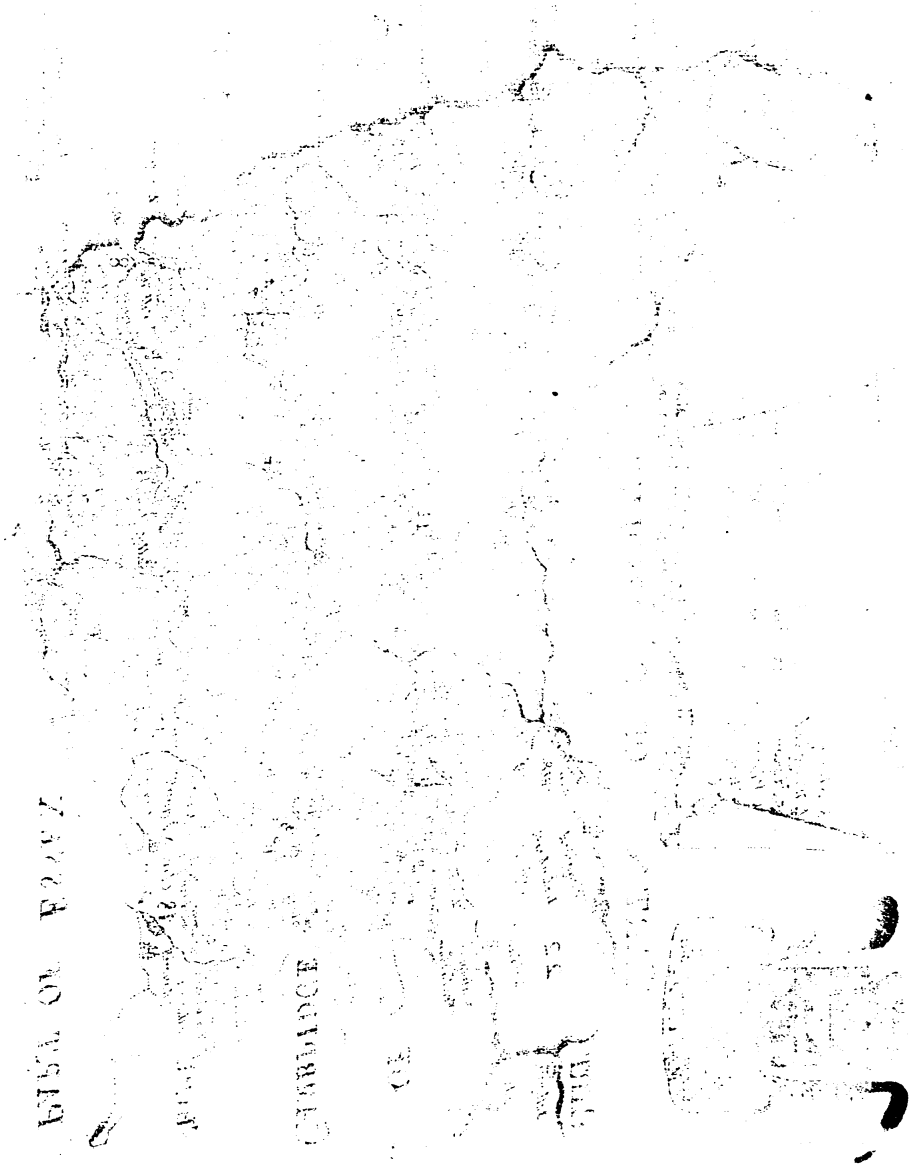
New-Castle. *New-Castle under Line*, seated on a little Rivulet; a large *Town Corporate*, governed by a *Major*, *Bailiffs*, and *Burgesses*, hath a Court of *Record*, to hold plea in all *Personal Actions* under 40 *l.* and amongst its Immunities sends *Burgesses* to Parliament. It hath a great Market on *Mondays* for Cattle, some *Horses* and *Sheep*, with plenty of Provisions; and after *Low-Monday*, a Market (or rather a Fair) every Fortnight for some time.

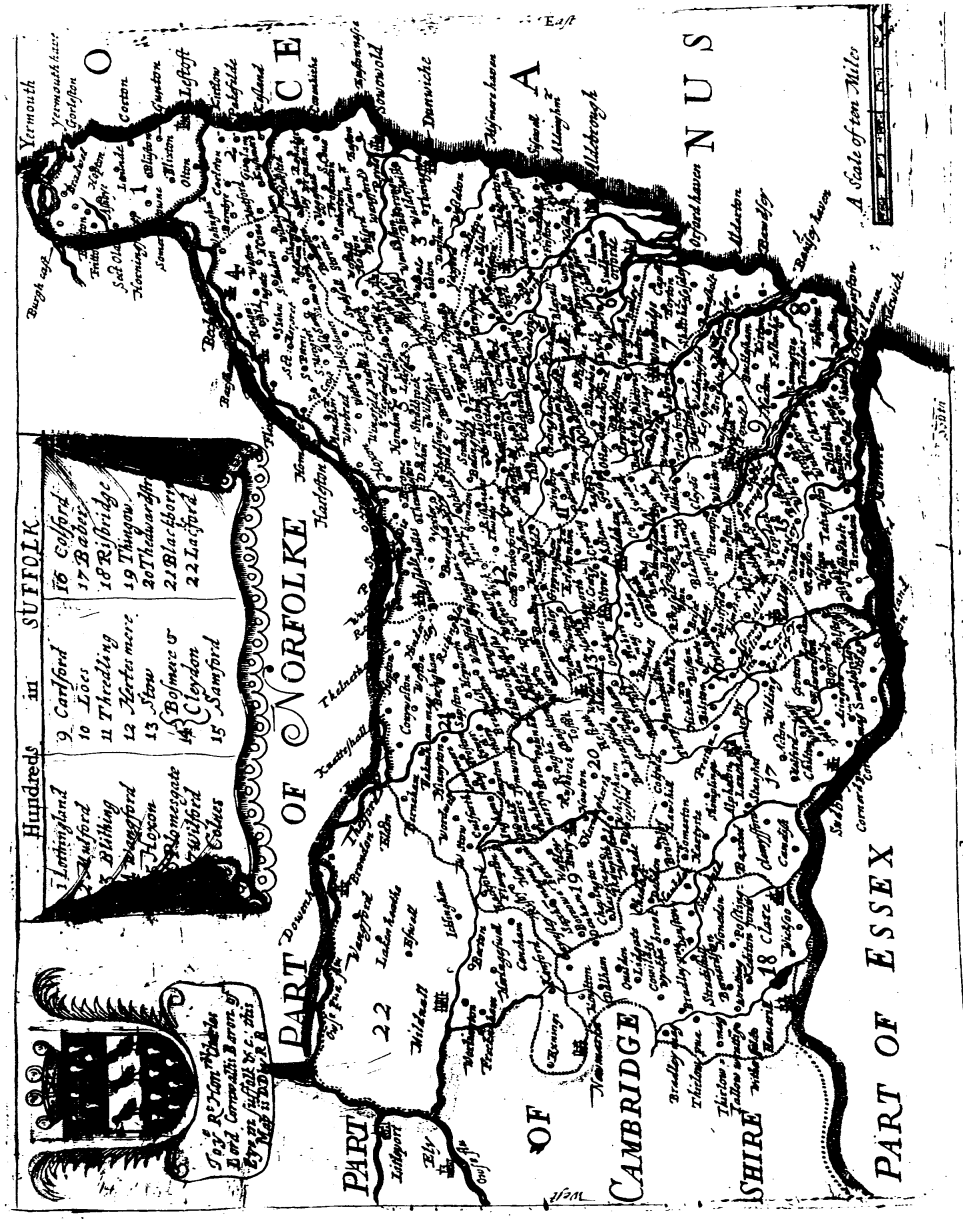
Uttoxater. *Uttoxater*, pleasantly seated near the Banks of the *Dove* amongst excellent Pasturage. The Town is not very well built, but pretty large, hath a well built *Market-place*; and its Market, which is on *Wednesdays*, is said to be one of the greatest in these parts of *England* for *Cattle*, *Sheep*, *Swine*, *Butter*, *Cheese*, *Corn*, and all Provisions.

Tamworth. *Tamworth*, seated on the Banks of the *Tame*, which divides the Town, one part being in this County and the other in *Warwickshire*. The Town at present is of good account (though not of that splendor as in former times) being incorporated, governed by *Bailiffs*, a *high Steward*, *under-Steward*, *Recorder*, and other sub-Officers, sends *Burgesses* to Parliament, and hath a Market on *Saturdays*, which is indifferent good for Corn and Provisions, and in the Spring time for *Cattle* and *Sheep*.

Walsall. *Walsall*, seated on the top of a Hill; a well-built *Town Corporate*, governed by a *Major*, and other sub-Officers, hath a Court of *Record*, enjoyeth a good Trade for divers Manufactures made of *Iron*, as *Nails*, *Bridle-bits*, *Stirrups*, *Spurs*, and also *Bellows*, here made in great plenty; yet its Market, which is on *Tuesdays*, is not very great.

Wolver-





Wolverhampton, pleasantly seated on a Hill, beautified with reasonable well built Houses, and its Streets handsomly paved; is much frequented by *Gentry*, hath a neat *Collegiate Church*, and its Market, which is on *Wednesdays*, is very considerable for *Corn*, *Cattle*, and *Provisions*, being esteemed the second *Market Town* in the County. *Wolverhampton.*

SUFFOLK, a County of a various Soil, and consequently hath sundry growths and Manufactures; the Eastern parts all along the Coasts, and for 5 or 6 miles Inland are generally very bleak, but healthy, *sandy*, full of small *Hills* and *Springs*, and employed in Tillage for *Rye*, *Peas*, *Brank*, *Hemp*, and for *Sheep-walks*. The more Inland part, commonly called *High-Suffolk*, or the *Wood-lands*, is pretty level, close and dirty, and is made use of chiefly for *Dayries*, driving a great trade for their *Butter* and *Cheese*; and the parts about *Bury* are Champain, and affordeth great store of grain of all sorts. County of *Suffolk* described.

It is a County of a large extent, is well stored with *Parks*, watered with fresh Streams, and blest with a most healthful and sweet Air, which makes it to be so well inhabited by *Gentry*, and is traded unto by 27 *Market Towns*, and numbreth 575 *Parish Churches*.

Ipswich, seated by the Banks of the *Orwell*, near the place where its fresh Water and salt meet, which (with the Tide) gives it the conveniency of a *Key*. 'Tis a place of great antiquity, and was once fenced about with a Wall or Rampier, which was thrown down by the *Danes*. It is at present a place of a large extent, numbring 12 *Parish Churches* besides St. *Georges Chapel*; and for its abundance of Streets, which are clean and neatly ordered, its populousness and good trade that its Inhabitants drive both by Sea and Land, it may be ranged in the number of Cities. It is a *Town Corporate*, well Priviledged, sends *Burgesses* to Parliament, and is governed by 2 *Bailiffs* chosen out of 12 *Port-men*, and 24 *Common Council*, also a *Recorder*, *Town Clerk*, and other sub-Officers. It is well served with Provisions, for besides its Shambles here are weekly 3 Markets, *viz.* on *Wednesdays* and *Fridays*, for *Fish* and *Butter*, and on *Saturdays* for Provisions of all sorts in great plenty. And this Town gave birth to *Cardinal Wolsey*, who here began a magnificent *Colledge*, which still bears his name. *Ipswich.*

Bury, or *St. Edmonds-Bury*, so called from King *Edmond* the Martyr, here interr'd, who was shot to death at *Hoxon* by the *Danes*, for not renouncing the *Christian Faith*. This Town is very pleasantly seated, and in an Air so healthful, that makes it to be much inhabited and frequented by *Gentry*. It is a *Town Corporate*, governed by an *Alderman* for its chief Magistrate, besides a *Recorder*, and other sub-Officers, and sends its Representatives to Parliament. It is of a large extent, yet consisteth but of two *Parish Churches*, hath well built Houses; its *Market-hill*, *Fair-sted*, and *Corn-Cross*, are spacious and handsom, but its Streets are ill paved, chiefly occasioned by the heavy Carriages which come to its Markets on *Wednesdays*, which are much resorted unto, being the chief Market Town in the County for Grain, and is also well furnished with fresh *Fish*, *Pigeons*, wild *Fowl*, and most sorts of Provisions. This Town was famous for its *Abby*, which for fairness and Prerogatives exceeded all others in *England*. Here is kept the *Quarter Sessions* for the liberty of *St. Edmond*; and in the *Abby-yard* stands the *Shire-house*, where the *Assizes* are ordinarily held for the County. *Bury.*

New-Market, composed of a well built Street; a great thorough-fare Town, full of *Inns*; it consists of two *Parish Churches*, the one in this County and the other in *Cambridgeshire*; but its *Market-place* and *Street* is wholly in *Suffolk*. Its Market is on *Tuesdays*, which is well frequented and served with *Fish*, *wild Fowl*, and other Provisions; and by reason of the situation of the Town near the spacious *Heath*, which bears its name, so commodious for *Horse-races*, and in a part of the Country so fit for *Field-sports*, it is much resorted unto by his Majesty, where he hath his *Palace*, and the *Nobility* and *Gentry*. *Newmarket.*

Mildenhall,

Mildenhall. *Mildenhall*, ſeated on a branch of the *Owſe*; a large *Market Town*, graced with a fair *Church*, with a tall *Steeple*, and very populous, having diſtant Streets called *Rows* (as *Beck-row*, *How-row*, &c.) to the *Fenward* belonging to it, as big as ſome little Towns. It hath a well frequented Market (eſpecially for *Fiſh* and *wild Fowl*) on *Fridays*.

Sudbury. *Sudbury*, ſeated on the *Stower*, over which it hath a fair Bridge leading into *Eſſex*; an ancient, good large Town, containing 3 *Pariſh Churches*, and by reaſon of its trade of *Clothing* is well frequented. It is a *Borough Town*, electing *Parliament men*, and is governed by a *Major*, 7 *Aldermen*, 24 *Burgeſſes*, and other ſub-Officers. Its Market, which is on *Saturdays*, is well reſorted unto.

Hadleigh. *Hadleigh*, a large *Town Corporate*, governed by a *Major*, *Aldermen*, *Council*, &c. hath the accommodation of two Markets weekly, *viz.* on *Mondays*, very conſiderable for all Proviſions, eſpecially *Meat*; and a ſmaller on *Saturdays*. It is graced with a ſumptuous *Church*, was a place of great Trade in former times for *Clothings*; but at preſent hath loſt much of its trade for *Turky-ware*, as alſo for *Bays* and *Says*.

Stow-Market. *Stow-Market*, ſeated in the center of the County, and between the branches of the *Gypp* or *Orwell*; a large and beautiful Town, graced with a ſpacious *Church*, on whoſe Steeple is a lofty *Pinacle*, not eaſie to be parallel'd. It hath a Market on *Thurſdays*, which is well ſerved with *Proviſions* and *Retail-wares*; and the grand Trade of the Town is now in *Tammeys*, and other *Norwich-Stuffs*, being the only Town in the County conſiderable for that employment.

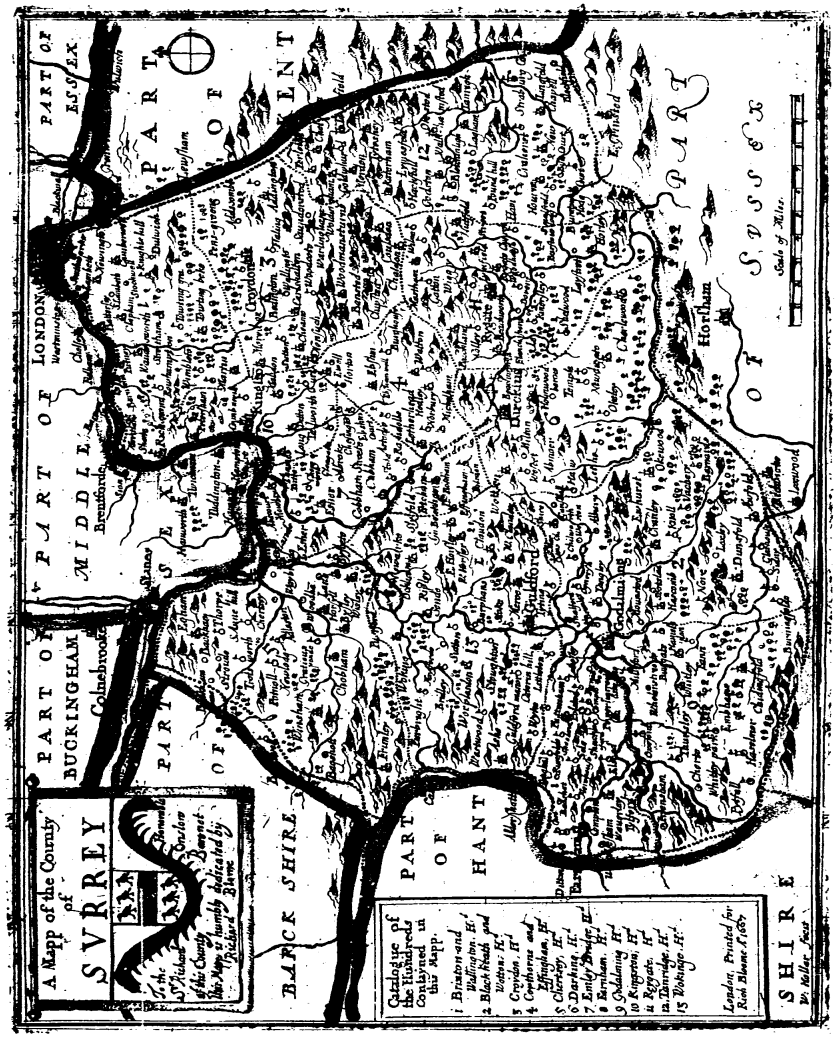
Woodbridge. *Woodbridge*, a large Town, watered with ſeveral freſh Springs, having a pleaſant proſpect down the *Channel*, chiefly at High-water, being about 6 miles from the Main; a Town of good Traffick by *Sea* and *Land*; it is well enough built, excepting the lowneſs of the oldeſt Houſes, and part of the Streets are well paved; it hath a fair *Church*, in which are ſeveral Monuments. Its Market, which is on *Wedneſdays*, is of conſiderable reſort, and well traded unto for its Commodities, *viz. Pouldavis*, *Sack-cloth*, *Plank*, *Butter*, *Cheeſe*, but chiefly for its *Hemp*. As to its *Sea-trade*, they have ſeveral Veſſels both great and ſmall, which are imployed by them, and have here 4 or 5 Docks for the building of *Ships*.

Aldborough. *Aldborough*, a *Coaſt Town*, pleaſantly ſeated in a *Dale*; a large, long, and plain built Town, compoſed of two or three Streets of low Houſes, all in a row. At a ſmall diſtance from this Town is *Slaughden*, where they have a commodious Key, with *Ware-houſes*, or *Fiſh-houſes*, the only employment of the Town being for *Fiſh*, having great conveniences for drying their *North-Sea Fiſh*; in which Fiſhing-trade, with a little in the Coal-trade, they employ ſeveral Veſſels, but not ſo many as formerly. It is a *Town Corporate*, governed by two *Bailiffs*, 10 *Capital Burgeſſes*, with 24 Inferiour, enjoyeth ancient Priviledges, and ſends its Repreſentatives to Parliament. For their defence *Sea-wards*, they have about 20 great Guns planted. Its Market is on *Saturdays*, which is but ſmall.

Dunwich. *Dunwich*, an ancient *Town Corporate*, ſending *Burgeſſes* to Parliament, and is governed by two *Bailiffs*, and other ſub-Officers, and hath a ſmall Market on *Saturdays*. It is a Town of great antiquity, being in the year 640 made an *Epiſcopal See* by *Felix* the *Burgundian*, in the reign of *William* the *Conquerour*; it contained 236 *Burgeſſes*, had a *Mint*, and its Inhabitants were rich; but through the removal of its *Epiſcopal See*, and the encroachment of the *Sea*, which hath ſwallowed up a great part of it, and decay of its Shipping and Trade; it is rather the Remains of a Town, than one.

Bungay. *Bungay*, ſufficiently watered by the *Waveney*, which ſevereth it from *Norfolk*. It is a good large Town, containing two *Pariſh Churches*, one of which is fair; and between both, in the midſt of the Town, is to be ſeen the Ruins of a famous *Nunnery*. Its Market is on *Thurſdays*, which is great, and well reſorted unto, eſpecially by thoſe of *Norfolk*.

Beckley,



Beckley, seated also on the *Waveney*, a very large Town, having a considerable, much frequented, and well served Market on *Saturdays*, and hath a Passage-trade by Water to *Yarmouth*; the Town is but plain built, having several Thatched Houses, but graced with a fair *Church*, and a bulky tall *Steeple*, on a Hill. *Beckley.*

SURRET, a County of a different Soil, not over fertil, (especially in the midst,) yet the parts near the *Thames*, which is plain and Champain, is grateful to the Husbandman; and the parts called *Holmesdale*, by reason of the aspiring *Hills*, *Rivers*, *Parks*, *Meadows*, *Groves*, and *Fields*, is a place of great delight. The Air is very healthful. It is garnished with the Seats of several Gentlemen, and is better stored with *Grass* than *Grain*. County of *Surrey* described.

Here are seated 140 *Parish Churches*, and hath the accommodation of 9 *Market Towns*.

Southwark, or the *Borough of Southwark*, on the South-side of the *Thames* opposite to the City of *London*, to which it is joyned by a stately *Stone-bridge*, and is a member thereof, being annexed by King *Edward* the Sixth; but doth still enjoy several of its ancient Priviledges, as electing *Burgesses*, holding of *Courts* within themselves, &c. It is a place, which for largeness of good Buildings, and quantities of Inhabitants, may be ranged with Cities; enjoying a good Trade, and is well resorted unto. *Southwark.*

Croydon, seated low, near the Spring-head of the River *Wandle*, land in a manner begirt with aspiring Hills, which for the most part are well clothed with *Wood*, of which great store of *Charcoal* is made, for which this place is of note. It is a large Town, dignified with the Seat of the Archbishop of *Canterbury*, is beautified with a large and fair *Church*, hath an *Hospital* for the relief of Poor people, and a *Free-School* for the Education of Youth. The Town is large, its Houses well built, and its Market, which is on *Saturdays*, is considerable, and well served with Corn and Provisions. *Croydon.*

From this Town to *Farnham* runneth the Downs, called *Banstead-Downs*, which affordeth great diversion for *Hawking*, *Hunting*, and *Horse-Races*.

Kingston, a large and ancient *Town Corporate*, enjoying large Immunities, and is of chief note for being the place where (upon a Stage in the open Market-place) stood the Chair of Majesty, where *Athelstan*, *Ethelred*, and *Edwin*, were Crowned Kings, and received their *Imperial Sceptres*, from whence 'tis said the Town took its name, being before called *Moneford*. It is pleasantly seated on the Banks of the *Thames*, over which it hath a fair Bridge which leadeth to *Kingstonwick* in *Middlesex*, about a mile from *Hampton-Court*, the *Palace* of his Majesty. Its Houses are well built, and hath several *Inns* and *Taverns*; it is the usual place for the *Assizes*, and its Market on *Saturdays* is very considerable for Corn and Provisions. *Kingston.*

Reygate, seated in the Vale of *Holmesdale*, of note for its bloody Battles here fought against the *Danes*, in which they were vanquished; and also for its ancient, but ruinated *Castle*, where (in the midst of a large Court) there is a Vault of a great depth and length, at the end of which is a spacious Room, where (according to report) the *Barons* met in Council, in their War against King *John*. Here is *Fullers-Earth* dug up in great plenty. It is a large *Borough Town*, which sends *Burgesses* to Parliament, and hath a very considerable Market on *Tuesdays*, being well served with Corn and Provisions. *Reygate.*

Not far from this Town are *Blechingley* and *Gatton*, two ancient *Borough Towns*, which electeth *Parliament men*, once places of good account, especially *Gatton*.

Guilford, no less pleasantly than commodiously seated on the River *Wey*, which is navigable for *Barges*, very commodious to the Inhabitants for the conveyance of their Goods by water to *London*. It is an ancient *Borough Town*, governed by a *Major*, and other sub-Officers, hath the election of *Parliament men*, and was a place of a larger extent when the *English-Saxon* Kings had their Palace here, than now it is; yet is it a fair, neat, well built, and large *Guilford.*

large Town, containing three *Pariſh Churches*, one of which is a fair Structure. It is a place well inhabited and frequented, where the *Aſſizes* are oft kept; and as ſeated on a High-road, is well furniſhed with *Inns* and *Taverns* for the reception of Travellers; and its Market, which is on *Saturdays*, is of good Account, and well ſerved with Corn and Proviſions.

Farnham. *Farnham*, ſaid to be ſo called from the great ſtore of *Fern* here growing. It is a good Town, ſeated on the River *Wey*, of note for being the place where King *Elfred* (with a ſmall Power) ſubdued the *Danes* with a great ſlaughter; and for its ſpacious *Caſtle*, highly ſeated. It hath a great Market on *Saturdays* for all Proviſions, but chiefly *Oats* and *Barley*.

County of *Suſſex* deſcribed. *SUSSEX*, a large County, in form long and narrow, which, with its extent, bounds, diviſion into *Rapes*, ſcituation, &c. may appear by the *Table*. The *Air*, though clouded with Miſts and thick Vapours, which ariſe from the *Sea*, yet is it good and healthful. It is well watered with Rivers, which fall into the *Sea*, which waſheth its Southern parts; and although its *Sea-Coaſt* is of ſo large an extent, yet it is but thin of Harbours, and thoſe not very good, being dangerous for entrance by reaſon of its *Rocks* and *Shelves*.

The Soil is fertil; the Sea-Coaſt called the *Downs* is hilly, but very pleaſant, and feedeth good ſtore of Cattle. The North-part is overſhadowed with *Woods* and *Groves*, where (in times paſt) was that famous Wood *Andradſwald*, being about 120 miles in length, and 20 in breadth; and in theſe parts are many *Iron-Mines*.

The Commodities that this County affordeth, are *Iron* unwrought, and wrought into *Guns*, &c. *Corn*, *Cattle*, *Sheep*, *Wool*, and *Wood*.

This County is ſevered into 6 *Rapes*, all which traverſe the *Shire*, and have each of them their particular *River*, *Foreſt*, and *Caſtle*; and in theſe *Rapes* are 65 *Hundreds*, in which are numbred 312 *Pariſh Churches*; and is traded unto by 16 *Market Towns*.

In *Chicheſter Rape* are 7 *Hundreds*, and its chief places are,

Chicheſter. *Chicheſter*, ſeated on the Banks of the *Levant*, which at a ſmall diſtance falleth into the *Sea*. It is an indifferent large City, containing 5 or 6 *Pariſh Churches* beſides its *Cathedral*; it is graced with good Buildings and ſpacious Streets, eſpecially the 4 which lead from the 4 Gates of its Wall, and croſs one another at the *Market-place*, which is a fair *Stone-Building*, ſuſtained with *Stone-Pillars*. It is dignified with an *Epiſcopal See*, and Seat of a Biſhop. It is a City endowed with many Priviledges, electeth *Parliament men*, is governed by a *Major*, *Aldermen*, *Recorder*, with ſub-Officers; is a place of pretty good Trade, and its Markets, on *Wedneſdays* and *Saturdays*, are well provided with *Corn*, *Cattle*, and all ſorts of Proviſions, both *Fleſh*, *Fiſh*, and *Fowl*.

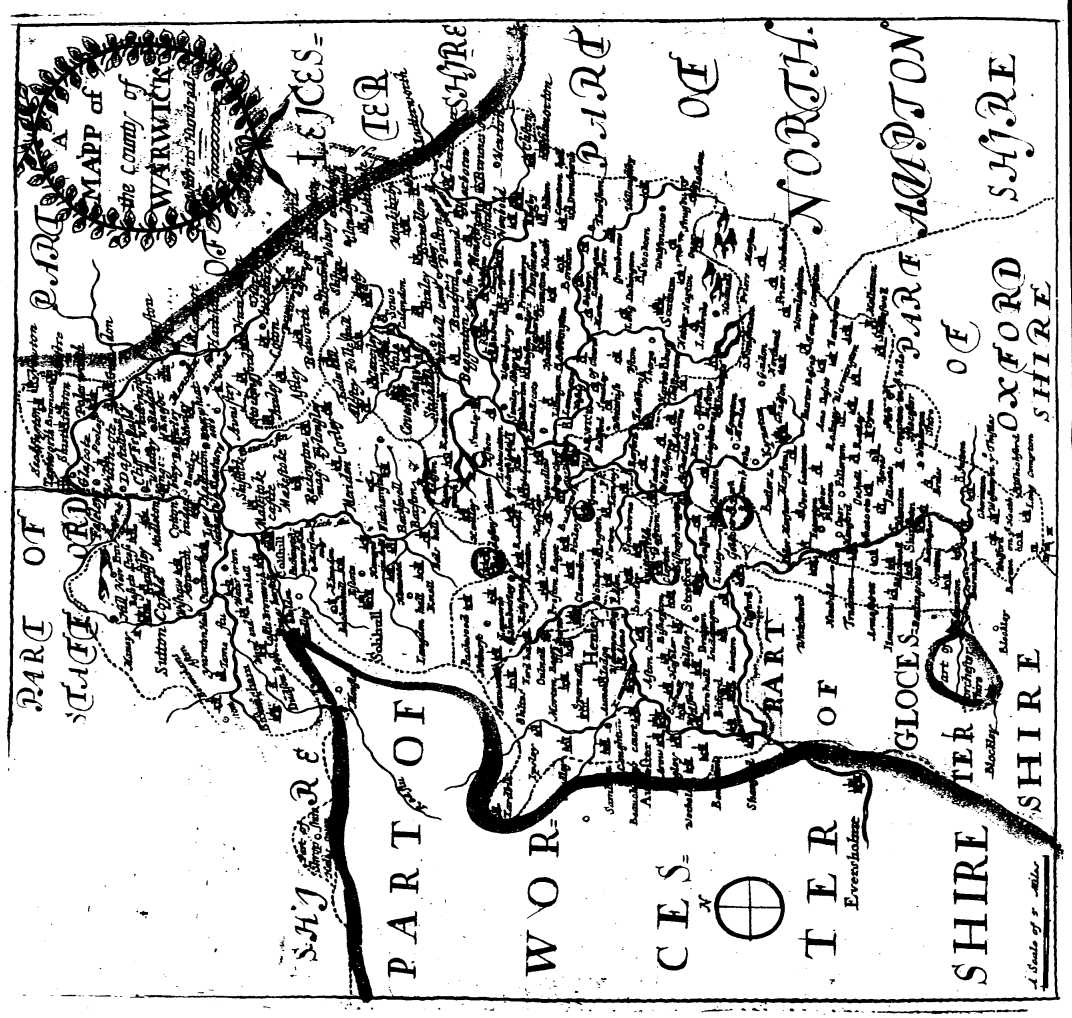
Nigh unto this City is *Selſey-Iſle*, or rather a *Peninſula*, as being almoſt encompaſſed with the *Sea* and its Arms and Branches, at preſent of chief note for its *Cockles* and *Lobſters*, here taken in great plenty; but in former time was of note for its City ſo called, now devoured by the *Sea*, where there was an *Epiſcopal See*, which afterwards was removed to *Chicheſter*.

Arundel. *Arundel*, pleaſantly ſeated near a Foreſt ſo called, and on the Banks of the *Arum*, over which it hath a Bridge. It is an ancient *Borough Town*, governed by a *Major*, and ſub-Officers, and amongſt its Immunities ſends *Burgeſſes* to Parliament; it was once of note for its ancient and ſtrong *Caſtle*, which flouriſhed in the time of the *Saxon* Empire. The Town is indifferent large, and its Houſes well built, and hath a Market.

Horſham. *Horſham*, ſeated near St. *Leonards Foreſt*, ſaid to be ſo called from *Horſa*, Brother to *Hengiſt*, who were the firſt Leaders of the *Engliſh Saxons* into this Iſle. It is a large *Borough Town*, governed by *Bailiffs*, ſends *Burgeſſes* to Parliament, is the place where the *County Goal* is kept, as alſo the *Aſſizes*; and hath a very great Market on *Saturdays* for Corn and all ſorts of Proviſions, eſpecially *Fowl*, which is bought up by *London* Haglers.

New





New Shorham, seated on an Arm of the *Sea*, which renders it to be a place of some Trade, and would be more, had it but a good harbour for Ships. It is a *Town Corporate*, governed by a *Conſtable* and *Burgeſſes*, electeth *Parliament men*, but hath not the benefit of a Market. *Shorham.*

Lewes, ſcituate on the banks of the *Arun*; a Town of good antiquity, where King *Athelſtan* appointed the Mintage of his Money. It is a *Town Corporate*, governed by 2 *Conſtables*, enjoys ſeveral Immunities, electeth *Parliament men*, and hath a very good Market for Corn and Proviſions on *Saturdays*. This Town for fairneſs of Buildings and Streets, populouſneſs of Inhabitants, both of *Gentry* and *Tradeſmen*, and largeneſs, numbring 6 *Pariſh Churches*, and having large *Suburbs*, may be eſteemed one of the beſt Towns in the County. *Lewes.*

At the entrance of the River *Arun* into the Sea, is *New-haven*, of late made a pretty ſecure Harbour for Ships, which hither put in in Foul weather, which theſe *Seas* are ſubject unto.

Eaſt-Grinſted, ſeated on an Eminence; a ſmall *Borough Town* on the confines of the County towards *Surrey*, is graced with a fair *Church*, hath the election of *Parliament men*, is governed by a *Bailiff* and *Burgeſſes*, is the place where the *Aſſizes* are often held, and hath a good Market on *Thurſdays*. *Grinſted.*

Winchelſey, of good antiquity, and once of far greater account than now it is, and that occaſioned by the *Seas* unkindneſs in forſaking it; yet doth it ſtill enjoy its Priviledges, as keeping of *Courts*, in being a Member of one of the *Cinque-Ports*, in ſending *Burgeſſes* to Parliament, and by being governed by a *Major*, (who is Lord of *Tarmouth* for the *Fiſhing-Trade*) and *Jurats*. The Town is ſeated on a Rock or ſandy Cliff, and on an Inlet of the *Sea*, where it makes 4 *Cataracts*, and were its Haven not choaked up it would be a place of Trade. It was formerly a large Town, numbring 18 *Pariſh Churches*, which are all reduced to ruin except one, and its Buildings alſo waſted and ruinous for want of Inhabitants, ſo that its Market is now diſuſed. *Winchelſey.*

Rye, one of the *Cinque-Port Towns*, which began to flouriſh upon the decay of *Winchelſey*, being walled about (where the Cliffs defend it not) in the Reign of King *Edward* the Third. It is at preſent a fair and well-built Town, with paved Streets; is well inhabited and frequented, chiefly by *Fiſher-men*, being of note for its excellent *Herrings* here taken, and for being the ready Port-Town to *Normandy*. It is governed by a *Major* and *Jurats*, hath a commodious Haven, and hath weekly 2 Markets, *viz.* on *Wedneſdays* and *Saturdays*, which are very well ſerved with Corn and Proviſions. *Rye.*

Haſtings, of good antiquity, being Incorporated, governed by a *Major* and *Jurats*, is one of the *Cinque-Ports*, enjoys large Immunities, and is of note for being the place where *William* the *Conquerour* ſet up his Fortreſs at his Landing at *Balver-hith*, not far diſtant, where he cauſed his Fleet to be burnt. It is a large Town, containing 2 *Pariſh Churches*, chiefly compoſed of as many Streets, in each of which there being a *Church*, and its Markets on *Wedneſdays* and *Saturdays* are well reſorted unto, and ſerved with Corn and Proviſions, eſpecially *Fiſh*, which is here had in great plenty. As to the ſcituation of this Town, it is couched between a high Cliff Sea-wards, and as high a Hill Land-wards. *Haſtings.*

The County of *WARWICK*, ſeated (as it were) in the midſt or heart of the Kingdom, and participates with her in the beſt, both for richneſs of Soil, pureneſs of Air, and pleaſure to its Inhabitants. County of *Warwick* deſcribed.

It may be divided into two parts, the one called *Feldon*, and the other *Woodland*, and theſe are in a manner ſeparated by the River *Avon*, which in a crooked paſſage runneth through the County. That called *Feldon* is more Champain, affording rich Meadows, feeding ſtore of Cattle, and is exceeding grateful to the Husbandman in their Crops of Corn: That called *Woodland*, of old *Arden*, took its name from the great plenty of Wood, which is now much waſted by the *Iron-works*, and this part is more ungrateful to the Husbandman.

It is severed into 5 *Hundreds* (in which are numbred 158 *Parish Churches*) and is traded unto by 17 *Market Towns*.

Coventry. *Coventry*, well seated for an Inland City, being esteemed the chief place of Trade in these parts; a place very well inhabited and frequented, and the more for the great quantities of *Cloaths* here made and vended. It is a fair, neat, and large City, containing 3 *Parish Churches*, of which that of St. *Michael* and the *Holy Trinity*, are loftily built, and is beautified with good Buildings and well ordered Streets, and its *Cross* (now lately repaired) is composed of curious work, and delightful to behold. Here it was that *Godiva*, wife to *Leofrick*, Earl of the *Mercians*, for the purchasing the Citizens freedom, and to be eased from those heavy Taxes which he imposed upon them for some Offence, about Noon-day rode naked through the chief Streets of the City. It is a place which enjoyeth several Immunities, being a County incorporate of it self, having within its Liberties several Towns; is governed by a *Major*, 2 *Sheriffs*, and other sub-Officers; keepeth *Courts* for the hearing of Causes and trial of Felons, having a Goal for Offenders, and sendeth *Burgesses* to Parliament. It is a place well served with Commodities, and its Market on *Fridays*, is very great for *Corn*, *Cattle*, *Provisions*, &c.

Warwick. *Warwick*, a Town of great antiquity, said to be built by *Gurgunstus* almost 400 years before the birth of Christ; and in the time of the *Romans* it was in a very flourishing condition, large and populous, where they kept a Garrison, which was a Band of *Dalmatian* Horsemen. It is at present a Town of good account, seated on a steep Rock, and washed on the River *Avon*, over which it hath a strong and well-built *Stone-Bridge*. It is indifferent large, containing 2 *Parish Churches* (besides several demolished;) its Houses are well built, its Streets well-ordered and large, hath a stately *Market-house*, enjoyeth a good Trade, chiefly for *Mault*, and is the place where the *Assizes* and general *Sessions* for the County are kept. It is governed by a *Major*, 12 *Brethren*, 24 *Burgesses*, a *Recorder*, with sub-Officers. Amongst its Immunities electeth *Parliament men*; and its Market, which is on *Saturdays*, is very great for Corn and Provisions.

Near unto this Town is *Guy-Cliff*, most pleasantly seated amongst *Groves* and fresh *Streams*, where *Guy* of *Warwick* is said to have built a *Chapel*; and after he had left off his exploits, here led an *Hermetical* life, and was here interr'd.

Stratford. *Stratford*, seated on the *Avon*, over which it hath a fair *Stone-bridge*, sustained by 14 Arches. It is a good large Town, having for Divine worship two *Churches*, is well inhabited, enjoyeth a considerable Trade for *Mault* here made, and hath a Market on *Thursdays*, which is very well served with Corn and Provisions.

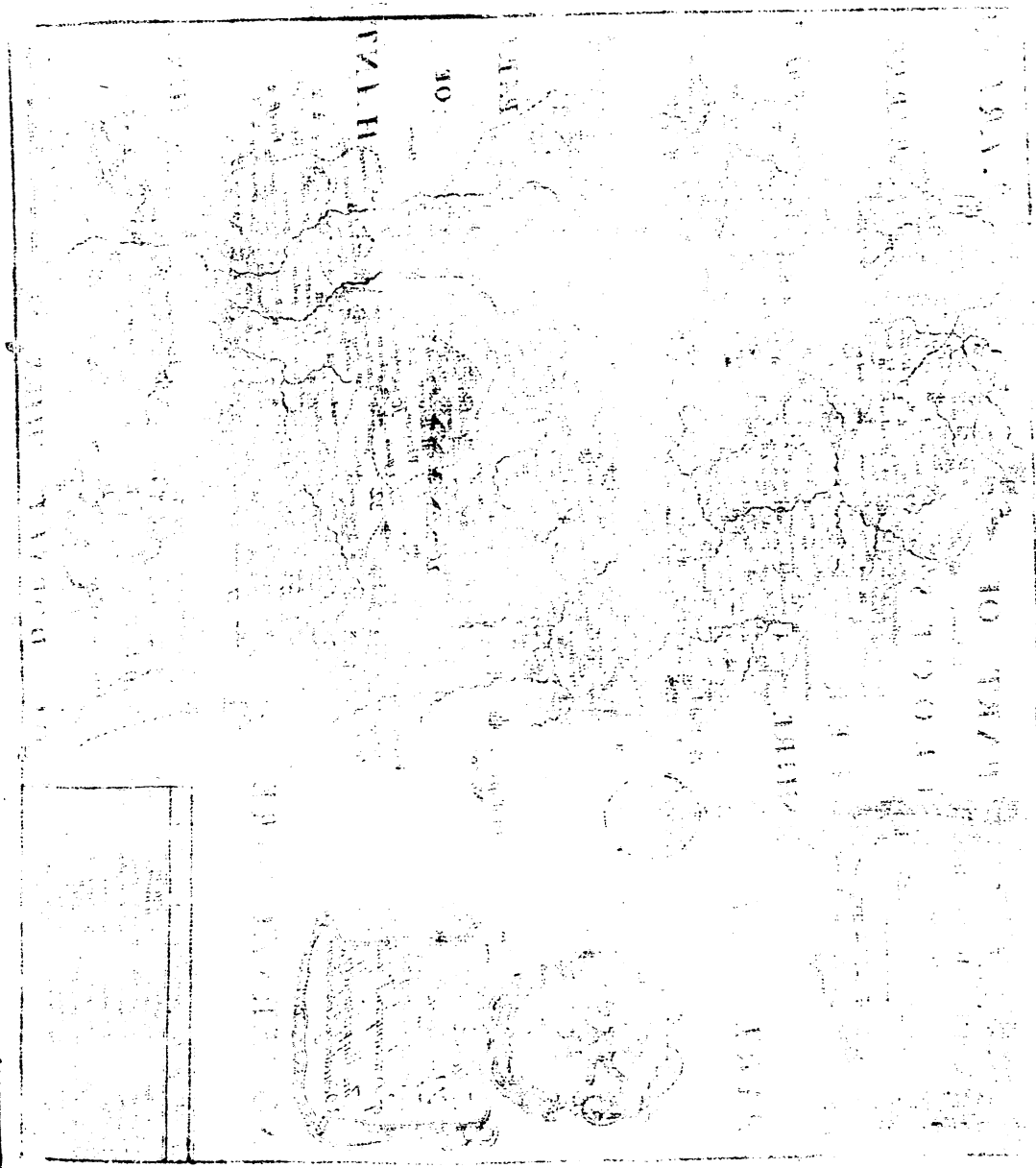
Bromicham. *Bromicham*, seated very dry on the side of a Hill; it is a large and well built Town, very populous, much resorted unto, and enjoyeth a very great trade for *Iron* and *Steel* Wares and Tools here made; also for *Saddles* and *Bridles*, which find good vent at *London*, *Ireland*, and other parts; and its Market is on *Thursdays*, which is very considerable for living *Cattle*, *Corn*, *Mault*, and *Provisions*, besides the Manufactures of the Town.

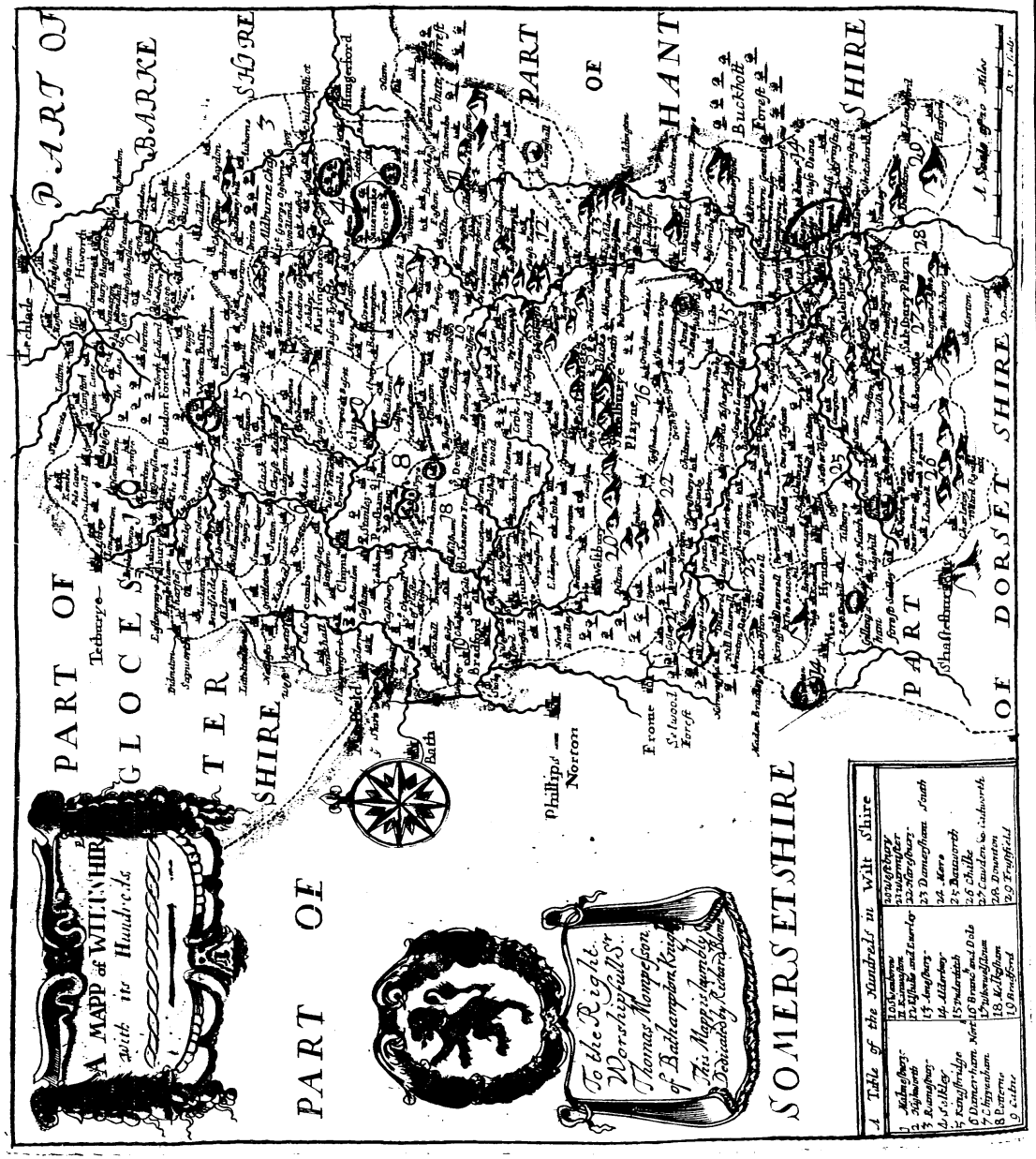
At *Newenham-Regis* is a Spring, whose Water (if drunk with *Salt*) looseneth; and if with *Sugar*, bindeth the Body; and is said to be very Sovereign against *Ulcers*, *Imposthumes*, and the *Gout*.

County of *Westmorland* described. The County of *WESTMORELAND*, so called, as lying amongst *Moors*, and high *Hills* or *Fells*, generally of a barren Soil, and very Mountainous, but not without many fruitful Valleys both for Tillage and Pasturage; and is well watered with fresh Streams.

Here are several *Meers* and *Lakes*, as *Winder-Meer*, which is the greatest standing water in *England*; *Rydale-water*, *Ester-water*, *Gresmere-water*, *Kent-Meer*, *Ulles-water*, *Brother-water*, *Hawse-water*, and others.

This





This County is divided or severed into two *Baronies*, *viz. Kendale Barony*, which is divided into the Wards of *Kendale* and *Lonsdale*; and the other *Barony*, called the *Barony* of *Westmoreland*, is divided into *East-Ward* and *West-Ward*; and of these in order.

Kirby-Lonsdale, or the *Church-Town* in *Lonsdale*, seated on the *Lon*, over which it hath a large *Stone-bridge*, and in a rich Vale. It is a large and well built Town, beautified with a fair *Church*; a well inhabited and frequented Town both to *Church* and *Market*, esteemed the greatest in the County next to *Kendale*; and its Market on *Thursdays* is well served with Provisions, and traded unto for *Cloth*. *Kirby-Lonsdale.*

Kendale, or *Kirby-Kendale*; a very fair, large, well-built, inhabited and frequented *Borough*, and *Market Town*, which for good Buildings, largeness, neatness, and good Manufactures is the chief in the County. It is a place of a considerable Trade, the people much addicting themselves to Traffick, not only in their old Manufacture of *Cotton* and course *Woollen Cloth*; but of late in *Druggets*, *Serges*, *Hats*, *Worsted-Stockings*, &c. to the much enriching the Town and adjacent parts. It is most pleasantly seated in a Valley, so called, amongst Hills, and on the River *Can* or *Kent*, over which it hath two fair *Stone-bridges*, besides one of *Wood*, which leadeth to the *Castle*, now ruinous. The Town is built in form of a *Cross*, and is beautified with a fair and large *Church*, sustained by five rows of *Pillars*, with several Apartments; near unto which is a *Free-School*, well endowed; and to this *Church* belongeth 12 *Chapels* of *Ease*. As to the Government of this Town, it is committed to the care of a *Major*, 12 *Aldermen*, 20 *Common Council-men*, a *Recorder*, *Town Clerk*, and two *Attorneys*, who attend their *Sessions* and *Courts* of *Record*. Here are belonging to this Town 7 Companies, *viz. Mercers*, *Shearmen*, *Cordwainers*, *Tanners*, *Glovers*, *Taylors*, and *Pewterers*, each having their *Hall* or place of meeting; and for the accommodation of its Inhabitants hath a very great Market for *Corn*, living *Cattle*, and *Provisions*, on *Saturdays*. *Kendale.*

Apleby, of note for its scituation and antiquity, being for the most part encircled with the River *Eden*; but so slenderly peopled with idle Inhabitants, and the Buildings so mean, although of late much amended, that were it not for the *Assizes* and *Sessions* here held, it would be little better than a Village. It is a very ancient *Town Corporate*, governed by a *Major*, and 12 *Aldermen*, with sub-Officers, enjoys large Immunities, sends *Burgesses* to Parliament, and is discharged from paying Toll in all places, except *London* and *York*. Here is an *Hospital* or *Alms-house* erected, and liberally endowed by the Lady *Clifford* for the relief of 13 decaied Widows, who are called the *Mother* and her 12 *Sisters*. The Market is here kept on *Saturdays*, which is well served with Corn and Provisions. *Apleby.*

Kirby-Stevens, beautified with a fair Church, seated near the Hills towards *Yorkshire*. It is a good and well known Town, which of late is much improved by the trade of making *Stockings*, and hath a good Market on *Fridays*. *Kirby-Stephens.*

At *Stainmore*, a great Hill, is a *Cross* said to be erected upon a Peace concluded between *William* the *Conquerour* and *Malcolme* King of the *Scots*, and that by the said Place each Kingdom should know their limits; and on this *Stone-Cross* which is called *Ree-Cross*, that is, the *Cross of Kings*, was engraven the Arms of the Kings, on the South-side those of *England*, and on the North those of *Scotland*. *Ree-Cross.*

WILT-SHIRE, an Inland County, no less fertil than delightful. Its Northern parts hath delectable Hills, well clothed with Woods and watered with fresh Streams, amongst which is the *Isis*, which soon becometh the chief of the Kingdom. Its Southern parts are more even, and exceeding fertil in *Corn* and *Grass*, feeding great flocks of *Sheep*; and are also well watered with the *Avon*, *Willy*, and *Alder*; and the midst of the County is plain and level, bearing the name of *Salisbury-Plain*, which is a large tract of ground which feedeth good flocks of *Sheep*. County of *Wilts.*

In the midst of this County is a *Dike* called *Wansdike*, which runneth many miles in length, and is a place of some wonder, being said to be made for the dividing the Kingdom of the *Mercians* from that of the *West-Saxons*; this being the place where they fought for the enlargement of their Dominions. And here it was that *Ina* the *West-Saxon* joyned Battle with *Ceolred* the *Mercian*, whence both of them quitted the Field with equal loss.

This County is divided into 29 *Hundreds*, in which are seated 304 *Parish Churches*, and hath for the accommodation of the Inhabitants 20 *Market Towns*.

Salisbury. *Salisbury*, a City of great antiquity, being the Seat of the *Romans*. It is commonly called *New-Sarum*, as raised out of the Old, which was seated on a great Eminence, being designed for Strength and War; yet honoured with an *Episcopal See*, and a fair *Cathedral*. This City of *New Sarum* is pleasantly seated on a River, whose Streams commodiously water its Streets, which are large and spacious. It is beautified with fair Buildings, and its *Minster* or *Cathedral* is a stately Structure, having as many Doors for entrance as Months in the year, as many Windows as Weeks, and as many Pillars (great and small) as Days in the year; and its *Spire* proudly sheweth it self from a great distance; near unto which is the *Bishops Palace*: then its *Town-Hall*, seated in a spacious *Market-place*, is a fair Building. This City (amongst its Immunities) sends *Burgesses* to Parliament, is a place well inhabited and frequented, enjoyeth a good Trade, and its Markets, which are on *Tuesdays* and *Saturdays*, are very considerable for Corn and Provisions; and for living Cattle on *Tuesdays*.

This City is encompassed with open *Fields* and *Plains*, where (at about 6 miles distance) is that wonderful piece of work called *Stone-Henge*, composed of great and unwrought Stones, some being 28 foot high, and 7 broad, and so laid thwart one another that it is wonderful to behold. And these *Stones* are said to be thus raised by the *Britains*, as a Monumental Sepulchre of the Vertue and Manhood of *Ambrosius Aurelianus*, who took upon him the Imperial *Purple-Robe* of *Britain* in the declension of the *Roman* Empire, succoured his languishing Country, and by the aid of that warlike *Arthur* repressed the furious rage of the Enemy, vanquishing powerful Armies, and in the end, in the last Battel fought on this Plain, lost his life.

Wilton. *Wilton*, well watered with the *Willey* and another River; a Town in former time of such great note that it was the chief in the County, and was dignified with an *Episcopal See*, had a Monastery and enjoyed great Immunities; but at present it is become a small, mean *Borough Town*, electing *Parliament men*, is the place where the *Knights* of the Shire are chosen, where the *Sheriff* keeps his Monthly *County-Courts*; yet hath but a small Market on *Fridays*.

Devizes. *Devizes*, seated near *Blackmere-Forest*; a Town of greater note and strength in former times than at present, being defended by a powerful *Castle*; yet is it a large Town, being well inhabited and traded unto for divers Commodities, especially for *Mault*; It hath the election of *Parliament men*, and its Market, which is on *Thursdays*, is very considerable for *Horses*, *Cattle* of all sorts, *Corn*, *Provisions*, and divers other Country-commodities.

Chipnam. *Chipnam*, seated on the *Avon*, a *Borough Town*, electing *Parliament men*, and hath a noted Market for Corn and Provisions on *Saturdays*.

Marlborough. *Marlborough*, seated on the *Kenet* near *Savernake-Forest* and *Aldburn-Chase*, and in a *Chalky Soil*, a Town of great note in former times, where there was a Parliament held, and a Law made for the suppressing of all Tumults called the Statute of *Marlborough*. And here was once a strong *Castle* belonging to *John* Sirnamed *Sans Terre*, who was after King of *England*. It is at present a good, large, and well built *Borough Town*, electing *Parliament men*, is governed by a *Major* and *Burgesses*, and hath a very considerable Market for *Corn*, *Mault*, *Provisions*, *Butter*, and especially *Cheese* on *Saturdays*.

Not far from this place are divers Stones, some of a vast bigness pitched up an end.

Swindon,



Swindon, seated near a rich Vale, and on the Summit of a Hill; a Town of no largeness, but its Houses are generally well built of stone, and hath a considerable Market for fat Cattle on *Mondays*. *Swindon.*

Malmesbury, pleasantly seated on the Banks of the *Avon*, which almost encircleth it; over which it hath 6 Bridges. It is a Town of great antiquity, where *Maidulph* an *Irish-Scot*, a man of great Holiness and Learning, under a Hill in a solitary Grove built a *Cell* or little *Monastery*, and lived an *Hermetical* life, and where his Successor *Adelme* built a fair *Monastery*. It is at present a good *Borough Town*, governed by a *Major* and *Aldermen*, enjoyeth several Immunities, sends *Burgesses* to Parliament, and hath a good Market for Corn and Provisions on *Saturdays*. *Malmesbury.*

The County of *WORCESTER* is of a fertil Soil both for Tillage and Pasturage, bearing good Crops of *Corn*, and feeding store of Cattle. It is interlaced with aspiring Hills, well clothed with Wood, as the *Malvern*, *Bredon*, *Woodbery*, *Aberley*, *&c.* and through its Valleys run those many Rivers, which so plentifully water the County, as the *Severn*, *Avon*, *Salwarp*, *&c.* County of *Worcester.*

This Shire hath such great abundance of *Fruits*, that even the *Hedg-rows* and *High-ways* are beset therewith, whose Fruits are free to all Passengers; and here *Sider* and *Perry* is had in as great plenty, as *Beer* at *London*. Here are many *Salt-Pits* or *Wiches*, which afford a most excellent high prized *Salt* for the *Gentries* Table, which for fineness, whiteness, and hardness, imitateth *Loaf-Sugar*.

This County is severed into 5 *Hundreds*, in which are seated 152 *Parishes*, and is traded unto by 11 *Market Towns*.

Worcester, no less pleasantly than commodiously seated on the *Severn*, over which it hath a fair *Stone-Bridge*, with a *Tower* upon it. It is a City of great antiquity, said to be built by the *Romans*, the better to secure themselves from the *Britains*, who were Masters of all beyond the *Severn*, and was held in good repute in the time of the *Danes* and *Saxons*; and although it hath received so many shocks of ill fortune by Fire and Sword, yet is it a place of good largeness, numbring 9 *Parish Churches*, besides St. *Michaels* and its *Cathedral*, a stately Structure, in whose *Quire* are several graceful Tombs. This City enjoyeth ample Immunities, electeth *Parliament men*, is dignified with the See of a *Bishop*, is governed by a *Major*, *Sheriff*, 6 *Aldermen*, 24 principal *Citizens*, with 48 less, called *Common-Council-men*, 2 *Chamberlains*, a *Recorder*, *Town Clerk*, with sub-Officers; is graced with good Buildings and well ordered Streets, is well inhabited, enjoyeth a good Trade, especially for *Clothings*, here made in great quantities, and its Markets on *Wednesdays*, *Fridays*, and *Saturdays*, are very considerable, especially that on *Saturdays* for *living Cattle*, *Corn*, *Flesh*, *Fish*, and all *Provisions*, which are here had at easie rates. *Worcester.*

Evesholme, seated on a Hill, arising from the River *Avon*, which almost encompasseth it, where it hath a *Stone-bridge*. This Town was of note for its *Abby*, founded by *Edwin*, by the helping-hand of King *Kenred*, Son of *Wolpher* King of the *Mercians*. It is at present a large and well-built *Market-Town*, esteemed the best in the County, next to *Worcester*, containing two or three *Parishes*, sends *Burgesses* to Parliament, is well inhabited and frequented, enjoyeth a good Trade, principally for *Stockings*; and its Market, which is on *Mondays*, is very considerable for *Corn*, *Cattle*, *Provisions*, and *Stockings*. This Town gives name to a Vale near adjoyning, which for fertility of Soil may deservedly be called the *Granary* of these parts. *Evesholme.*

Droitwich, seated on the River *Salwarp*; a pretty good *Bailiwick-Town*, but its Market (which is on *Fridays*) is but small. This Town is of great note for its *Salt-Pits* or *Wiches*, having three *Fountains* that afford great plenty of Water for the making of *Salt*, which is excellent white and good; for which here is drove a good Trade. *Droitwich.*

Sturbridge,

Sturbridge. *Sturbridge*, ſeated on a Flat, and on the *Stower*, over which it hath a Bridge; it is a good and well-built Town, hath the accommodation of a good *Free-School*, with a *Library*, and its Market on *Fridays* is well furniſhed with *Corn*, *Proviſions*, and *Swine*.

Kidderminſter. *Kidderminſter*, ſeated under a Hill, and on the *Severn*, where the *Stower* loſeth it ſelf, dividing the Town in twain; an ancient *Bailiwick-Town*, beautified with a fair *Church*, hath well-built Houſes, is well inhabited, and much traded unto for its Stuffs called *Kidderminſter-Staffs*, and its Market, which is on *Thurſdays*, is conſiderable for *Corn*, *Cattle*, *Proviſions*, and ſeveral Country-commodities.

Bewdley. *Bewdley*, a *Bailiwick-Town*, which ſends *Burgeſſes* to Parliament, pleaſantly ſeated on the *Severn*, and near the Foreſt of *Wire*, which in former time was a place of great delight, and much reſorted unto. It is a neat and well-built Town, enjoyeth a good Trade for *Mault*, *Leather*, and *Caps*, called *Bewdley-Caps*, here made, and hath a Market on *Saturdays*, chiefly conſiderable for *Barly*.

County of York deſcrib'd. *YORK-SHIRE*, the largeſt County in *England*, being above 300 miles in compaſs; and although thus ſpacious, for the generality is indifferent fertil, yielding good plenty of *Cattle*, *Corn*, *Fowl*, and *Fiſh*; for if one part is *ſtony*, *ſandy*, and *barren*, other parts make amends: and although there are great ſtore of *Heaths* and *Moors*, which are barren ground, yet are they profitable to the Inhabitants for the feeding of Cattle.

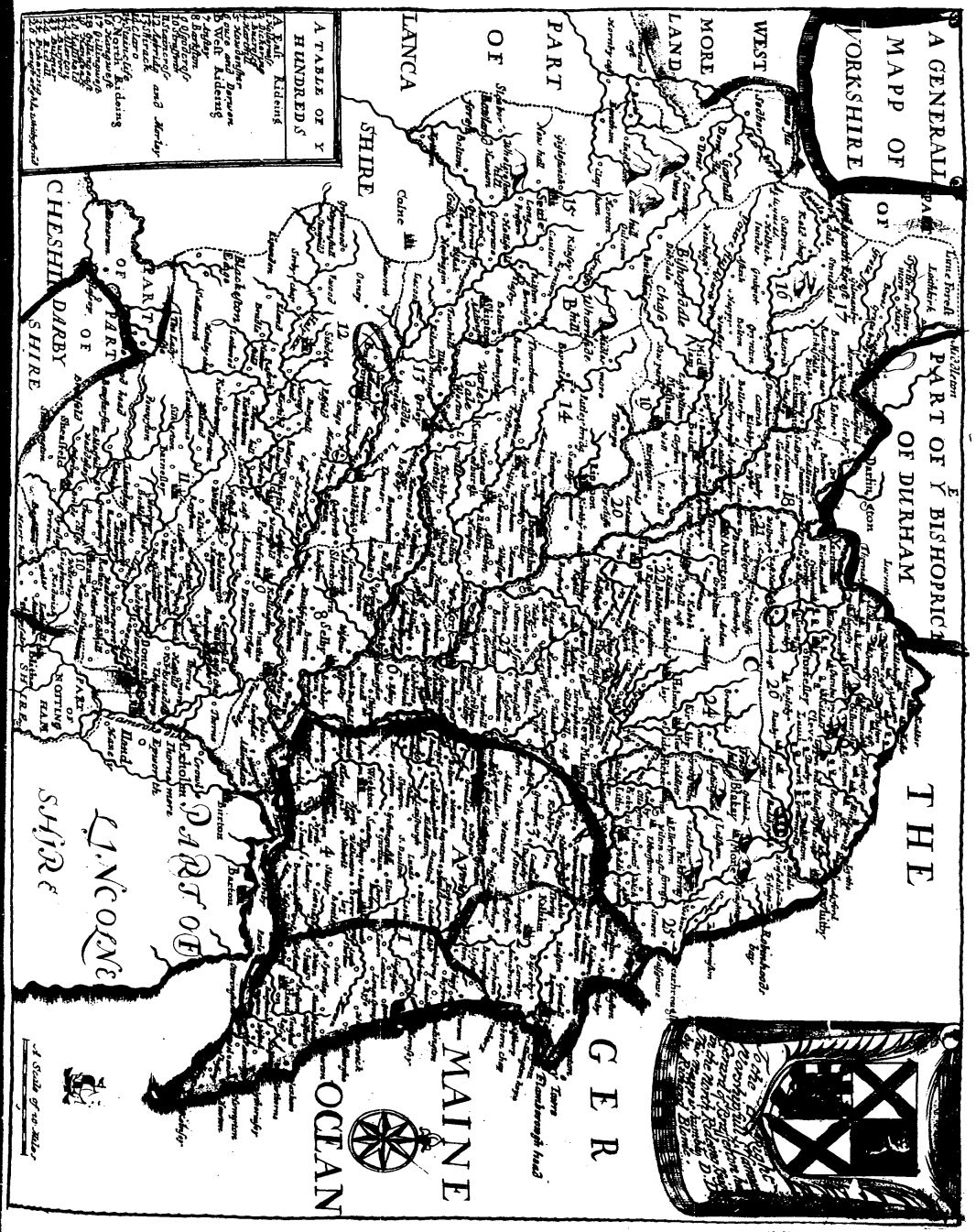
In this County the *Romans* had ſeveral Stations; and here were abundance of *Abbeys*, *Monaſteries*, and *Religious Houſes*, many of which were of great note, eminency, and wealth.

The chief Manufactures of this Shire, are *Stockings*, *Alum*, *Jett*, *Lime*, *Knives*, *Pins*, &c. but above all *Cloth* in great plenty.

It is ſevered into three diſtinct parts, and called the *North-Riding*, the *Eaſt-Riding*, and the *Weſt-Riding*; which ſaid Ridings or Parts are ſubdivided into 26 *Wapontacks*, or *Hundreds*, *viz.* the *North* into Eleven, the *Eaſt* into Six, and the *Weſt* into Nine; and in all theſe *Wapontacks* are numbred 563 *Pariſh Churches*, beſides abundance of *Chapels* of *Eaſe*, by reaſon of the largeneſs of the *Pariſhes*, many of the *Chapels* being as large as Pariſhes in other parts of *England*.

The *North-Riding* of *Yorkſhire* may not improperly be divided into *Richmondſhire*; *Cleaveland*, a fertil part; *North-Allerton*, and *Blackmore*, very Mountainous, Craggy, and Mooriſh. The chief places in this Riding are,

City of York. *York*, which next to *London* claimeth the Priority of all others in the Kingdom; a place of great antiquity and fame, having its riſe from the *Romans*, who had it in ſuch great eſteem, that *Severus* their Emperour had here his *Palace*, and here ended his days, and had thoſe Funeral Rites ſolemnized on his Corps according to their cuſtom. And here *Fl. Valerius Conſtantius*, ſurnamed *Chlorus*, bid adue to the World, and in his room his Son *Conſtantine* was here proclaimed *Emperour*. Nor did this City thus flouriſh only in the time of the *Romans*, but was of great repute in all ſucceeding Ages, and hath in all the revolutions and changes under the *Saxons*, *Danes*, and *Normans*, preſerved its ancient luſtre, and is at preſent a fair, large, and beautiful City, adorned with many ſplendid Buildings, both publick and private, is very populous, much reſorted unto, and well inhabited by *Gentry* and wealthy *Tradeſmen*, and numbreth about 30 *Pariſh Churches* and *Chapels*, beſides its *Cathedral* or *Minſter*, a moſt ſtately Structure dedicated to St. *Peter*. Amongſt its publick Buildings of note theſe may be taken notice of; The *Biſhops-Palace*; its *Chapter-Houſe*, a curious piece of *Architecture*; the *Princes-Houſe*, called the *Mannor*; and the Courts of *Judicature*, held for the Neighbouring *Marches*, according to that of *Ludlow*. It is a City and County within it ſelf, enjoyeth large Immunities, ſendeth *Burgeſſes* to Parliament, is governed by a *Lord Major*, 12 *Aldermen* clad in Scarlet, 2 *Sheriffs*, 12 *Common Council*, 8 *Cham-*



8 *Chamberlains*, a *Recorder*, *Town Clerk*, *Sword-Bearer*, and *Common Serjeant*, with other ſub-Officers. It is a place of great ſtrength, being well fortified, and encloſed with a ſtrong Wall, on which are many *Turrets* or *Watch-houſes*, and hath for entrance 4 *Gates* and 5 *Poſterns*. Its ſcituation is no leſs pleaſantly than commodiouſly ſeated on the *Owſe*, which ſevereth it in two parts, but joyned together by a fair *Stone-bridge*; and to conclude, its Markets on *Thurſdays* and *Saturdays* are very conſiderable, and well ſerved with *Fleſh*, *Fiſh*, *Fowl*, &c. as are its *Shambles* on the Week-days with Proviſions.

Malton. *Malton*, or *New-Malton*, ſeated on the *Derwent*, over which it hath a good *Stone-bridge*. It is compoſed of two Towns, the *New* and the *Old Malton*, and both containing 3 *Pariſh Churches*; it is a place well inhabited, and accommodated with good *Inns*, hath weekly two Markets, on *Tueſdays* and *Saturdays*, which is one of the beſt in the County for *Horſes*, *living Cattle*, *Proviſions*, and moſt Country-commodities, eſpecially *Utenſils* for Husbandry; and as a *Borough Town* (which is but meanly built) electeth *Parliament men*.

Pickering. *Pickering*, or the *Honour* of *Pickering*, a pretty good Town, belonging to the Dutchy of *Lancaſter*, hath a famous Old *Caſtle* (now ruinous) in which they keep their *Courts* for the hearing of Cauſes under 40 *s.* in the ſaid *Honour*, which includeth ſeveral *Villages*, which (as it were) encompaſs it, ſo that the adjacent Country is called *Pickering-Lith*, the *Foreſt* of *Pickering*, and the *Liberty* of *Pickering*. Its Market, which is on *Mondays*, is well ſerved with Corn and Proviſions.

Scarborough. *Scarborough*, a place of great ſtrength, as well by Nature as Art, being ſeated on a ſteep Rock, with ſuch craggy Cliffs, that it is almoſt inacceſſible, and beareth ſo into the Sea; that it is waſhed on all parts, except on the Weſt, where it yieldeth acceſs by a ſtrait *paſſage*, *Cliff*, or *Gullet*, where it hath a ſtrong Wall. On the top of this Rock is a very fair, green, and large *Plain*, containing about 60 Acres of ground, and hath a little *Well* of Freſh-water ſpringing out of the Rock; and for its further defence hath a ſtrong *Caſtle*, now made uſe of by his Majeſty for a *Garriſon*. This Town is not very large, but well built and inhabited, enjoyeth a good Trade, having a commodious Key, with ſeveral Veſſels belonging to it, which are employed by them; and during the *Herring-ſeaſon* for the *Fiſhing Trade*, they being plentifully taken on this Coaſt. This place is of note for its famous *Spaw*, much reſorted unto, as well by *Foreigners* as the *Engliſh*. It is a *Town Corporate*, electing *Parliament men*, is governed by two *Bailiffs*, and a *Common Council*; and hath two Markets weekly, on *Thurſdays*, which is of good account, and on *Saturdays*, which is but ſmall.

Not far from this Town is *Robinhoods-Bay*, ſo called from *Robinhood*, that noted Robber in the Reign of King *Richard* the Firſt; and here is found *Jett*, or *black-Amber*,

Whitby. *Whitby*, well ſeated on the River *Eſk*, at its influx into the *Sea*, over which it hath a Bridge. It is a well built Town, enjoyeth a conſiderable Trade, (eſpecially for *Alum* and *Butter*, called *Whitby-Butter*) there belonging to it about 100 Sail of Veſſels, having a *Cuſtom*, and would be more conſiderable were its *Peer* finiſhed; and its Market, which is on *Saturdays*, is very great, and well ſerved with *Fleſh*, *Fiſh*, *Fowl*, &c.

Skeningrave. On this Coaſt is ſeated *Skeningrave*; a ſmall Town, but well frequented by *Fiſhermen*: And near unto *Hunt-Cliff*, not far from the Shoar, at a Low-water, appear Rocks, about which the *Seal-fiſh* come in great Sholes, and lie ſleeping and Sunning themſelves in fair and warm weather; and (according to obſervation) whilſt theſe Fiſh do thus ſleep, there is one of them which watcheth as a *Sentinel*, and when any danger approacheth, they are awaked by its ſlinging it ſelf into the *Sea*, and making a noiſe, and ſo eſcape.

North-Allerton. *North-Allerton*, ſeated near the *Swale*; a large *Borough Town*, which electeth *Parliament men*, and hath a great Market on *Wedneſdays*, for *Horſes*, *Cattle*, *Corn*, and *Proviſions*, and is a Town of a good Trade.

The

Richmondſhire. The other part of this Riding beareth the name of *Richmondſhire*, ſo called from a *Caſtle* there ſeated. It lieth very high, and is Mountainous and Rocky; hath good Mines of *Lead*, *Copper*, and *Pit-Coal*; is interlaced with fertil Valleys. It containeth within its Juriſdiction 5 *Wapontacks*, and hath for its chief places,

Richmond. *Richmond*, ſeated on the Northern Banks of the *Swale*, over which it hath a *Stone-bridge*. It is a large *Town Corporate*, containeth 2 *Pariſh Churches*, is begirt with a *Wall*, which hath 3 *Gates* for entrance, which leadeth into ſo many Suburbs; is fortified with a ſtrong *Caſtle*, highly ſeated on a *Rock*; is graced with well-built Houſes, many of which are of *Free-ſtone*, and its Streets are paved and well ordered. Its *Market-place*, which is well reſorted unto, and plentifully furniſhed with *Cattle* and *Proviſions*, on *Saturdays*, is very ſpacious. It is well inhabited by *Gentry* and *Tradeſmen*, and enjoyeth a very good Trade for *Stockings* and *Woollen Knit-Caps* for *Sea-men*. It is governed by a *Major* and *Aldermen*, with ſub-Officers, enjoyeth large Immunities, and hath a Court of *Record* for all Actions, without limitation of ſome for the ſaid liberty.

The Eaſt parts of this Riding, lying on or near the *Sea-ſhoar* and the Banks of the *Derwent*, are of a good Soil and fertil; but the midſt, called the *Wold*, is very hilly and barren. Its chief places are,

Hull. *Hull*, or *Kingſton upon Hull*, commodiouſly ſeated on the Mouth of the River *Hull*, at its influx into the *Humber*; a Town of no great antiquity, taking its riſe from King *Edward* the Firſt, where he made a *Haven* and a *Free-Burgh*, and granted to its Inhabitants (who were Free *Burgeſſes*) ample Immunities. It is at preſent a very large *Borough* and *Town Corporate* (though containing but 2 *Pariſh Churches*) graced with fair Buildings, and well ordered Streets, which are ſufficiently furniſhed with *Shop-keepers*, one of which reſembleth *Thames-ſtreet*, near the *Bridge* in *London*, where *Pitch*, *Tar*, *Cordage*, *Sails*, and other neceſſaries for *Ships* are ſold, and to which the *Ships* and *Veſſels* come to lade and unlade their Goods, having a *Cuſtom-Houſe* and *Key*; and the commodiouſneſs of the Town for *Shipping*, makes it to be a place well inhabited, and much reſorted unto by *Merchants*; this Town being inferiour for Trade to none in *England*, next to *London* and *Briſtol*. It is a place of exceeding great ſtrength, being able to bid defiance both to a *Navy* and a *Land-Army*, and that by reaſon of its ſtrong *Block-houſes*, *Caſtles*, *VValls*, *Forts*, *Trenches*; and the Inhabitants and Souldiers within it, being a conſiderable *Garriſon* of his Majeſties. It is governed by a *Major*, 12 *Aldermen*, a *Common Council*, and other ſub-Officers; amongſt its Priviledges, gives Vote in Parliament by its Repreſentatives. It is very well ſerved with Proviſions, as well in its Shambles as in its Market, which is on *Saturday*.

In theſe *Seas* are taken abundance of *Herrings*, to the great profit of the Inhabitants.

Barlington. *Bridlington*, or *Barlington*, a Sea-Port Town, ſeated on a Creek near *Flamborough-head* (a place well known to *Sea-men*) and hath a ſafe Road for *Ships* to ride in, and a very commodious Key for *Ships* to lade and unlade at, by reaſon of which it enjoyeth a good Trade; and its Market, which is on *Saturdays*, is well ſerved with *Proviſions*, &c.

Beverley. *Beverley*, ſeated on the River *Hull*, which gives paſſage into the *Humber* for *Boats* and *Barges*, for the conveyance of their Goods to and fro. It is a large and well-built *Borough* and *Town Corporate*, containing two *Pariſh Churches* beſides its *Minſter*; it enjoyeth large Immunities, electeth *Parliament men*, is governed by a *Major*, 12 *Aldermen*, with ſub-Officers; is a place well inhabited by *Gentry* and *Tradeſmen*; and its Markets, which are on *Thurſdays* and *Saturdays*, are well ſerved with Proviſions.

Howden. *Howden*, ſeated near the Rivers *Owſe* and *Derwent*; a good large Town, which gives name to a ſmall Territory called *Howdenſhire*, and hath a very great Market for *Cattle*, *Corn*, and *Proviſions*, on *Saturdays*.

The

The Weſt Riding is the largeſt of the three, is every where well watered with *Rivers*, and repleniſhed with good *Towns*; the chief amongſt which are,

Halifax. *Halifax*, ſeated in a barren Soil, and on a ſteep deſcent of an Hill; a place of note, as well for being the Birth-place of *Johannes de Sacro Boſco*, the Inventer of the Sphere, as for its ſtrict Law in the ſudden beheading of ſuch as are taken in the act of Theft. As for the largeneſs of the Pariſh, it containeth 11 *Chapels* of *Eaſe*, of which two are *Pariſh Chapels*; is very well inhabited, and driveth a great Trade for *Cloth* and other Manufactures. It is a very good Town, graced with *Stone-built Houſes*, and well-ordered and paved *Streets*, and hath a conſiderable Market for Corn and Proviſions on *Thurſdays*.

Sheafield. *Sheafield*, ſeated on the *Don* or *Dune*; a place of chief note for the great quantity of *Smiths* there inhabiting (by reaſon of the many *Iron-Mines* in theſe parts) who drive a good Trade for all ſorts of *Edge-Tools*, and other things of *Iron*, eſpecially *Knives*, which bear the name of *Sheafield-Blades*. The Town is large, its Houſes built of *Stone*, and hath a great Market on *Tueſdays* for ſeveral Commodities, eſpecially *Corn*, which is much bought up for the ſupply of ſome parts of *Darbyſhire*, *Nottinghamſhire*, and the Weſt of *Yorkſhire*.

Rotheram. *Rotheram*, ſeated on the *Don*, over which it hath a fine *Stone-bridge*; a well built Town, with *Stone-houſes*, and hath a very great Market for Cattle and Proviſions on *Mondays*.

Tickhill. *Tickhill*, yet retaineth ſomething of its ancient *Caſtle* and *Fortifications*, demoliſhed in the late Wars. It hath a diſtinct Liberty, called the *Honour of Tickhill*, being part of the Dutchy of *Lancaſter*, and hath a Market on *Saturdays*.

Doncaſter. *Doncaſter*, ſeated on the *Done*, and on the great Road to *London*; an ancient Town, of good Antiquity, once defended by a *Caſtle*, now reduced to ruins; and in *Anno* 759 this Town ſuffered much, great part (with its *Cittadel*) being conſumed with Fire; but was rebuilt with a fair *Church*, erected in the place where the *Cittadel* ſtood. It is a large, well-built and inhabited *Town Corporate*, governed by a *Major* and *Aldermen*, enjoyeth a good Trade, eſpecially for *Stockings*, *Knit-Waiſtcoats*, *Petticoats*, and *Gloves*, and hath a very good Market for *Corn*, *Cattle*, and *Proviſions*, on *Saturdays*.

Selby. *Selby*, honoured in giving birth to King *Henry* the Firſt, ſeated on the *Owſe*, which gives paſſage for ſmall Veſſels to *York*, which doth occaſion it to be a Town of ſome Trade, and hath a good Market for Proviſions and Merchandize on *Mondays*.

Pontfract. *Ponfract*, very delightfully ſeated in a dry tract of ground; a neat *Town Corporate*, beautified with good Buildings, was once ſtrengthned with a ſtrong and ſtately *Caſtle*, which was demoliſhed in the late Wars. It is governed by a *Major* and *Aldermen*, ſends *Burgeſſes* to Parliament, and hath a very great Market for *Corn*, *Cattle*, *Proviſions*, and divers Country-commodities, on *Saturdays*.

Wakefield. *Wakefield*, ſeated in a large *Lordſhip* ſo called, having its Steward. It is a large Town, of good antiquity, beautified with well built *Stone-houſes*; it is a place well known for its *Clothing* here made, and hath a great Market on *Thurſdays* and *Fridays* for *Cloth*, *Corn*, *Proviſions*, and divers Country-commodities.

Leeds. *Leeds*, ſeated on the *Are*; an ancient Town, where the Kings had formerly their *Royal Palace*; and here *Oſwy*, King of the *Northumbers*, put to flight *Penda* the *Mercian*. It is a large and well built *Town Corporate*, governed by a *Major* and *Aldermen*, with ſub-Officers, electeth *Parliament men*, is very well inhabited, eſpecially by wealthy *Clothiers*, who drive a great Trade for their Cloth; and hath two conſiderable Markets, on *Tueſdays* and *Saturdays*, which are well traded unto for *Corn*, *Proviſions*, *Woollen-Cloth*, and divers good Commodities.

Knaresbrough. *Knaresbrough*, delightfully seated on the *Nid*, and on a ragged rough Rock, on which is seated a Castle. It is a well-built *Town Corporate*, electing *Parliament men*, and hath a good Market for Corn and Provisions on *Wednesdays*.

Nigh unto this place, in a Moorish boggy-ground, ariseth a Spring of *Vitriol-line* tast and odour; and not far off is also a *Sulphur-Well*, which is good for several Diseases; here is also a droping *petrefying-Well*, which turns, *Wood*, *Moss*, &c. into *Stone*.

Ripon. *Rippon*, seated between the *Yore* and a Branch thereof, over which are two Bridges. It is a place of good antiquity, and of much fame for its *Religious Houses*, but especially for its stately Monastery, built by *Wilfrid* Archbishop of *York*. It is at present a large and well-built *Town Corporate*, governed by a *Major* and *Aldermen*, hath the election of *Parliament men*; the Town is well inhabited by Gentry, and its Market, which is on *Thursdays*, is very great for *Cattle*, *Corn*, *Provisions*, and chiefly for *Wool*, which is much bought up by the Cloathiers of *Leeds*. This Town is beautified with a very fine *Cathedral Church* with a lofty Spire-Steeple; and in this Church was *St. Winfrids Needle*, a place famous in our Fore-fathers days, being a narrow Hole in the close Vaulted-room under ground; in which place (as 'tis reported, but not Recorded for Truth) *Womens* Honesty was used to be tried; for, according to the story, those that were Chast could easily pass through, but the kind-hearted Souls were (by an unknown means) held fast, and could not pass through.

WALES.

THE Island of great *Britain*, in ancient time, was severed into three Parts; the first, fairest, and greatest, contained all within the *French Seas*, the Rivers of *Severn*, *Dee*, and *Humber*, and was called *Lhoyger*, which name in *Welsh* it still retaineth; and in *English*, *England*. The second took up all the Land Northwards, from the *Humber* to the *Orkney* Isles, and was called *Mare Caledonium*, or *Deucaledonium*, and now *Scotland*. And the third lying between the *Irish Seas*, the Rivers of *Severn* and *Dee*, was anciently called *Cambria*, and now *Wales*; to which the *Britains* being outed of their Country, were forced to retire, and there fortified themselves.

The Bounds. This Country of *Wales* is bounded on all sides by the *Sea*, except towards *England*, from which it is severed by the River *Dee*, and a Line drawn to the River *Wye*; but anciently it was extended to the River *Severn* Eastward; for *Offa* King of the *Mercians* forced them to quit the Plain Countries beyond that River (which now is called the *Marches of Wales*,) and to betake themselves to the *Mountains*, which he caused to be separated from *England* by a great Ditch, called *Offa's Dike*; in *Welsh*, *Claudh Offa*; in many places yet to be seen; which *Dike* beginneth at the influx of the *Wye* into the *Severn*, and reacheth unto *Chester*, which is about 84 miles, where the *Dee* disburthens it self into the *Sea*. And over this *Dike* (by a Law made by *Harald*) no *Welshman* was permitted to pass with a Weapon, upon pain of losing his Right hand.

Very Mountainous and Barren. The whole Country is *Mountainous* and *Barren*, yet affordeth several good Commodities, and is not without many fertil Valleys, which bear good *Corn*, and breed great abundance of small *Cattle*, with which they furnish *England*, as also with *Butter*, *Cheese*, *Woollen-Cloths*, called *Welsh-Frizes*, *Cottons*, *Bays*, *Herrings*, both White and Red, *Calve-skins*, *Hides*, *Hony*, *Wax*, &c. and the Country is well stored with Quarries of *Free-stone* for building, and *Mill-stones*; as also hath Mines of *Lead*, *Lead-Oar*, *Coals*, and some of *Silver* and *Tin*. And these Commodities are generally brought to *Shrewsbury*, *Oswestre*, *Bristol*, *Worcester*, and other adjacent parts, and thence dispersed into *England*.

Its Ancient division. About the year of Christ 870, *Rodericus Magnus*, King of *Wales*, divided this Country into three *Regions*, *Territories*, or *Talaiths*, which were so many Kingdoms, to wit, *Gwineth*, *Venedotia*, or *North-Wales*; and this part he gave to *Anarawd*, his eldest Son; *Deheubarth*, or *South-Wales*, which he gave to *Cadelh*, his second Son; and *Powis*, or *Powis-Land*, which he gave to *Mervin*, his third Son: and in each of these three Kingdoms he appointed a *Royal Palace*, as at *Aberffraw*, in the Isle of *Anglesey*, for *North-Wales*; at *Dynefar*, or *Dynevowr-Castle*, not far from *Carmarthen*, for *South-Wales*; and at *Matravan*, in *Montgomery-shire*, for *Powis-Land*.

Present division. But at present, according to Act of Parliament, made in the Reign of King *Henry* the Eighth, it is severed into two Parts, to wit, *North-Wales* and *South-Wales*, both which have as it were devoured all *Powis-Land*; and in each of these parts there are 6 Counties; in the North, those of *Anglesey*, *Caernarvon*, *Denbigh*, *Flint*, *Merioneth*, and *Montgomery*; and in the South, those of *Brecknock*, *Cardigan*, *Carmarden*, *Glamorgan*, *Pembroke*, and *Radnor*.

Again, *Wales* (like unto *England*) is divided into four Circuits for the Administration of Justice; and then the first shall contain the Counties of *Denbigh*, *Flint*, and *Montgomery*; the second, those of *Brecknock*, *Glamorgan*, and *Radnor*; the third, those of *Cardigan*, *Carmarden*, and *Pembroke*; and the fourth, those of *Anglesey*, *Caernarvon*, and *Merioneth*.

But to proceed to the description of these Counties, and first of *North-Wales*.

NORTH-WALES.

Isle of *Anglesey*.

THE Island of *ANGLESEY* is severed from *Caernarvon-shire* by a narrow Streight of the River *Menai*, and on all other parts it is washed with the *Irish Sea*. It was the ancient Seat of the *Druids*, and brought with no small difficulty under the *Roman Scepter* by *Julius Agricola*. It is so fertil, and abounding in all things, as *Corn*, *Cattle*, and *Provisions*, that the *Welsh* term it the *Mother of Wales*, supplying its defects; although for sight it seemeth dry, stony, and hilly. It produceth a sort of Stones called *Molares*, very fit and good for *Mill-stones*, and *Grind-stones*.

In this Isle were formerly seated 366 *Towns* and *Villages*, but at present but 74, and hath intercourse of Traffick with two *Market Towns*, and hath several good *Ports* and *Harbours*, as also divers *Ferries*, for the conveyance of Passengers to and fro. Its chief places are,

Beau-Morish.

Beau-Morish, seated on a Moorish-ground, but commandeth a fair prospect into the *Sea*, where it hath a very good Harbour for *Ships*. It was built by King *Edward* the First, the better to secure his Conquest, who fortified it with a powerful *Castle*, now in good repair. It is a pretty good handsom *Town Corporate*, governed by a *Major*, *Recorder*, 2 *Bailiffs*, who are *Justices* of the *Peace*, and 21 *Common Council*, called *Burgesses*. It is the chief *Shire-Town*, where the *Assizes* and *Sessions* are held, sends a *Burgess* to Parliament, is indifferently well inhabited and frequented, as being the usual place for the reception of Passengers from *London* to *Ireland*, before their taking Shipping at *Holyhead*. It hath weekly two Markets, on *Wednesdays* and *Saturdays*, which are indifferent good.

Newburgh.

Newburgh, seated near *Brant* River, where it formeth a *Bay*, and falleth into *Menai* River; a small *Borough Town*, governed by a *Major*, 2 *Bailiffs*, and a *Recorder*, and hath a Market on *Tuesdays*.

County of *Caernarvon* described.

The County of *CAERNARVON*, before *Wales* was divided into *Shires*, bore the name of *Snowden-Forest* from the principal Hill therein seated, which is of a very great height and extent, and affordeth excellent sweet *Mutton*; on the top of this Hill floateth a *Meer*, and maketh a River, and falleth into the *Sea* at *Trathe-Mawer*. It is a County of a sharp Air, very Mountainous; yet not unfertil, and feedeth good Herds of Cattle.

In this County are seated 68 *Parish Churches*, and hath six *Market Towns*:

Caernarvon.

Caernarvon, commodiously seated on the *Sea-shoar*, where it hath an excellent prospect into the Isle of *Anglesey*. It was a place of good account, where the Princes of *Wales* had their *Exchequer* and *Chancery* for *North-Wales*; and is a place of great strength as well by Nature as Art, being encompassed on all parts (except towards the East) with the *Sea* and two *Rivers*, and had a strong *Castle*, where, in a *Tower* thereof called *Eagle-Tower*, *Edward* the Second, the first Prince of *Wales* was born. It is a place of no great extent, having but one *Parish Church*; its Houses and Streets are well built and ordered, is well inhabited, enjoyeth several Immunities, sends a *Burgess* to Parliament, is governed by the *Constable* of the *Castle*, who is ever *Major*, and hath for his assistance an *Alderman*, 2 *Bailiffs*, a *Town-Clerk*, with Sub-Officers; and its Market on *Saturdays*, is very good for Corn and Provisions.

Bangor,

Bangor.

Bangor, lowly seated on the *Sea-shoar*; a Town in Ancient time so large, that it was called *Bangor the Great*, and was defended by a powerful *Castle*, which long since was laid level to the ground. It is at present but a small City, or rather a Town, yet dignified with the See of a *Bishop*; its *Cathedral* is large and well built, its Houses indifferent good, is pretty well inhabited, is governed by the *Bishops-Steward*, who keepeth *Court-Leets* and *Courts-Baron* for the *Bishop*; and hath an indifferent good Market on *Wednesdays*.

Penmaen-maur.

Nigh unto *Bangor* is *Penmaen-maur*, that is, the *Great Stony-head*, being an exceeding high and steep Rock, which at High-Sea so hangeth over, that it affordeth a very narrow and dangerous passage; but having passed this, and *Penmaen-bychan*, that is, the *Lesser Stony-head*, the Country openeth it self in a broad Plain as far as the River *Conwey*.

Aberconwey.

Aberconwey, seated at the Mouth of the *Conwey*, raised out of the Ruins of the ancient *Canonium* of *Antonine*, being strongly fenced both with *Walls* and a *Castle*. It is a pretty good Town, governed by an *Alderman* and 2 *Bailiffs*, which for largeness and good Buildings, doth rather deserve the name of a City than a Town, especially were it thicker inhabited, and better resorted unto; yet its Market, which is on *Fridays*, is well served with Provisions and several Country-commodities.

Pulhely.

Pulhely, seated on the *Sea-shoar*, and between two *Rivers*; a pretty large and indifferent well-built *Bailiwick Town*, which hath a good Market on *Wednesdays* for Corn and Provisions, and enjoyeth a good Trade by *Sea*.

County of *Denbigh* described.

DENBIGH-SHIRE, a Country very Hilly; several of which are of so great a height, that they retain *Snow*, and the tops thereof in the *Summer* season are the Country-mans *Morning-Almanack*, to denote a fair day by the rising of certain Vapours.

It is of a different Soil; the Western part being *Heathy*, is much inclined to sterility, and but thinly inhabited, except the part which lieth towards the *Sea*; the Eastern (beyond the Valley) is much more barren; and the middle, where it lieth flat, is a pleasant and fertil Vale, and well inhabited with *Gentry*.

Here are seated 57 *Parish Churches*, and is traded unto by four *Market Towns*.

Denbigh.

Denbigh, seated on the hanging of a Rocky-Hill, and on a branch of the *Clwyd*; once a place of good strength, when fortified with a strong Wall, and an impregnable Castle. The Town is indifferent large, well built, inhabited by *Glovers* and *Tanners*, enjoyeth a good Trade, by some esteemed the best Town in *North-Wales*; is governed by a *Aldermen*, 2 *Bailiffs*, and 25 *Capital Burgesses*, with sub-Officers; electeth a *Parliament man*, and hath a good Market for *Corn*, *Cattle*, and *Provisions*, on *Wednesdays*.

Ruthin.

Ruthin, seated on the *Clwyd*, which washeth a rich Vale, of note for its once large and fair *Castle*. It is a large, well inhabited and frequented *Town Corporate*, governed by 2 *Aldermen* and *Burgesses*, hath a large *Hospital*, and a *Free School*, governed by a *Warden*; and hath a very considerable Market for Corn and Provisions on *Mondays*, which is esteemed the best in the Vale.

Wrexham.

Wrexham, seated in a good Soil, affordeth plenty of *Lead*, and on a small River which falleth into the *Dee*. It is an indifferent large, well-built and inhabited Town, graced with a fair *Church*, whose *Steeple* is not inferiour to any in *England*; and hath two Markets weekly, *viz.* on *Mondays*, which is but small, and on *Thursdays*, which is very great for *Corn*, *Cattle*, and *Provisions*.

Llansainan.

In this County is *Llansainan*, seated on the River *Aled*; a small Town, but of note for its Cave made in the side of a *Rock* or *Stony-hill*, wherein are 24 *Seats*, some bigger and some lesser, known by the name of *Arthur's Round-Table*; a place much frequented by *Shepheards* and *Heardsmen*.

The

Flintshire described. The County of *FLINT* is not over Mountainous; and those that are being interlaced with fertil Valleys, affordeth plenty of Corn and Pasturage; it hath great abundance of *Hony*, but is very defective of *Wood* and *Fruits*. It is indifferently well watered, hath several safe Harbours for *Ships* to Ride and Anchor in; and this part of the County hath plenty of Mines of *Pit-Coal*, and the adjacent Mountains have store of *Lead-Oar*.

St. Winfrids-Well. This Shire is famous for *St. Winfrids-Well*, not far from *Cajervis*, in *English*, *Holy-Well*; a place of great note, and much resorted unto, as well by those to Bath in, as being esteemed very good for several Diseases; as by *Pilgrims*, out of their devotion in memory of that Christian Virgin *Winfrid*, who was there ravished by a young *Lord* or *Prince* of the Country, and to stop her Acclamations, cruelly slew her and cut off her Head; out of which place (according to Report) did immediately gush forth a *Spring*, which is of so rapid a Stream, that at a small distance it is able to drive a Mill. Over the Head of this *Spring* or *Well* there now standeth a *Chapel* built of *Free-stone*, of curious workmanship; and in the *Chancel*, on the *Glass-window* is lively pourtraied the History of *St. Winfrid*; of her life, and how her Head was cut off, and set on again by St. *Beuno*. In the Well there groweth *Moss*, of a most sweet and pleasant smell, which is said to be *St. Winfrids-hair*.

Here are seated 28 *Parishes*, and hath two *Market Towns*.

Flint. *Flint*, well seated on the *Dee*, of chief note for its now old and ruinous *Castle*; and although the *Shire-Town* is but small, and hath no Market; but as a *Borough-Town*, electeth *Parliament man*.

St. Asaph. *St. Asaph*, seated on the *Elwy*, where it receiveth the *Cluyd*, over each of which there is a Bridge; a place of more fame for its antiquity, than largeness or beauty, being an ancient *Episcopal See*, founded by *Kentigerne*, a *Scot*, Bishop of *Glasco*, in *Anno* 560, of which about 300 that were unlearned, employed their times in Husbandry within the limits of the said *Monastery*, and the rest to a Holy life. By this it may be judged their Bounds were exceeding large; and upon his return into *Scotland*, he ordained *Asaph* (a godly man) to be his Successor, from whom the Town or City took its name, which at present is not large, nor its Buildings very good, chiefly glorying in its *Cathedral*. It hath a small Market on *Saturdays*.

County of Merioneth described. The County of *MERIONETH* is exceeding Mountainous and Rocky, very unpleasant, and for the generality much inclined to sterility, bearing but thin Crops of *Corn*; yet is found to feed good flocks of *Sheep*, and Herds of *Cattle*, from which the Inhabitants draw their chief Maintenance. It is observed, that these Mountains are of so great an height, that in many places two men may stand and discourse together, each upon a several Mountain, but must travel some miles before they can come to meet. It is well watered with *Rivers*, and is well provided with red *Deer*, *Fowl*, and *Fish*; and as this County is thus Mountainous and barren, so is it as thinly inhabited, numbring but 37 *Parishes*, and those but ordinary, and hath but three *Market Towns*.

Harlech. *Harlech*, seated on a Rock on the *Sea-shoar*; a small *Borough Town*, which is but thinly inhabited, nor its Houses over well built, although the chief of the County. It is governed by a *Major* for its chief Magistrate, sends a *Burgess* to Parliament, and hath a mean Market. This Town was once of a greater account for its strong and beautiful *Castle*, highly seated, commanding both Sea and Country adjoyning; but was reduced to Ruins in the late unhappy Wars by the *Parliamenteers*, this being a Garrison of the Kings.

Bala. *Bala*, seated near *Pimble-Meer*, which is of a large extent, through which the *Dee* is said to run, but not to mingle with its water, which is proved for that the *Salmons*, plentifully taken in the *Dee*, are not found in this *Meer*; and likewise the Fish called *Gwyniaid*, much like unto *Whitings*, which is in as great plenty taken in this *Meer*, are never found in the *Dee*. This Town is Incorporated, enjoyeth some Immunities, is governed by *Bailiffs*, hath an indifferent Market on *Saturdays*; but the Town is mean and small.

MONT-

County of Montgomery described. *MONTGOMERY-SHIRE*, very Hilly and Mountainous, but interlaced with fertil Valleys both for Tillage and Pasturage, and was in ancient time of note for its good breed of *Horses*.

Here are seated 47 *Parish Churches*, and is traded unto by 6 *Market Towns*.

Montgomery. *Montgomery*, the Shire-Town, so called from *Roger de Montgomery*, Earl of *Shrewsbury*, the first builder thereof. It is well seated amongst rich grounds, and on an easie Ascent of a Hill; a place once fortified with a powerful *Castle*, and fenced about with a *Wall*, which was dismantled in the late Wars. It is an indifferent large *Town Corporate*, governed by *Bailiffs*, sends a *Burgess* to Parliament, and its Market, which is on *Thursdays*, is well resorted unto, and hath a good Shambles.

Welch-Pool. *Welch-Pool*, seated on the *Severn*, and in a rich Vale; the greatest and best built *Town Corporate* in the County, governed by *Bailiffs*, is well inhabited, enjoyeth a very good Trade for *English* Commodities from *Bristol*, and its Market on *Mondays* is very considerable for *Cattle*, *Provisions*, and *Flannels*. Its Castle, called *Powis-Castle* (which within the compass of its Wall containeth two Castles,) is of late a large and stately Pile of Building.

Llanvilling. *Llanvilling*, scituate in a Flat amongst the Hills, and between the *Cain* and the *Ebir*; it is a good Town, and hath a considerable Market for *Cattle*, *Corn*, *Wool*, and *Provisions*, on *Thursdays*.

Within three miles of this Town is *Matravan-Castle*, sometimes the Royal Seat of the Princes of *Powis-Land*.

SOUTH-WALES.

County of Pembroke described. *PEMBROKE-SHIRE*, called in *Welsh*, *Brechinean*, is said to take its name from one *Brechanius* a Prince, who had a great Off-spring of 24 *Daughters*, and all Saints. It is a County for the generality very Mountainous, some of which are exceeding high, especially *Monachdenny-Hill*, not far from *Brecknock*, which exalteth it self above the Clouds; and although thus Hilly, yet is not without many large and fertil Plains and Valleys, both for *Corn* and feeding of *Cattle*; and the more by reason of the Rivers, *Uske* and *Wye*, which receive those many Streams that so plentifully water the County, and afford to the Inhabitants great abundance of Fish, especially *Salmon* and *Trouts*, in the *Wye*.

Here are seated 61 *Parish Churches*, and 4 *Market Towns*.

Brecknock. *Brecknock*, seated at the meeting of the Rivers *Hodney* and *Uske*, over which it hath a fair *Stone-bridge*. It is a place of good antiquity, and at present a very large *Batliwick Town*, containing 3 *Parish Churches*, one of which is a *Collegiate Church*; its Houses are well built, was once strengthned with a stately *Castle*, as also with a strong *Wall*, which gave entrance by 3 *Gates*. It is governed by 2 *Bailiffs*, 15 *Aldermen*, 2 *Chamberlains*, a *Town Clerk*, &c. amongst its Immunities sends a *Burgess* to Parliament; is a place well inhabited, and the rather as being the Shire-Town where the *Assizes* are held. It enjoyeth a good Trade for *Clothing*, and hath weekly two Markets, on *Wednesdays* and *Saturdays*, which are very well served with *Cattle*, *Corn*, and *Provisions*.

About two miles from this Town is a large *Meer* or *Pool* some miles in compass, called *Brecknock-Meer*, where in former times stood a fair City, which was swallowed up by an *Earthquake*.

Hay. *Hay*, seated between the *Wye* and the *Dulas*; a Town of good note in the time of the *Romans*, being then fortified with a Castle and a Wall. It is at present a good Town, and hath a very great Market for *Corn*, *Cattle*, and *Provisions*, on *Mondays*.

Bealt. *Bealt*, pleasantly seated amongst the Woods, and on the Banks of the *Wye*, over which it hath a very large *Wooden-Bridge*, which leads into *Radnorshire*; at present a pretty small Town, enjoying a considerable Trade for *Stockings*,

and

and hath weekly two very good Markets, on *Mondays* for Cattle, and on *Saturdays* for Corn and Provisions.

County of *Cardigan.* *CARDIGAN*, a County of a different Soil, and ill clothed with Wood; the Southern and Western parts being plain and very fertil (yet not without some Hills,) and its Eastern and Northern parts are Mountainous, and not so fertil, amongst which is the *Plinillimon-Hill*, a Mountain of a very great extent and height.

Here are numbred 64 *Parish Churches*, and hath 4 *Market Towns*.

Cardigan. *Cardigan*, formerly strengthned with a Wall, and a fair and spacious Castle, built on the side of the *Tywye* upon a Rock, long since brought to ruin. It is a Town no less pleasantly than commodiously seated on the said River *Tywye*, over which it hath a fair *Stone-bridge*, sustained by several Arches, and is of no great distance from its influx into the *Sea*; and being the Shire-Town where the *Assizes* are held, and the *County-Gaol* kept; is well inhabited and frequented, being a large Town, though containing but one *Church*, which is a fair Structure, and is graced with a well built *Shire-Hall*, with several good Buildings; and as a *Town Corporate*, is governed by a *Major*, *Aldermen*, *Common Council*, with sub-Officers; enjoyeth several Immunities, electeth a *Parliament man*, and hath an indifferent good Market on *Saturdays*.

Llanbeder. *Llanbeder*, seated on the *Tywye*, over which is a Bridge which leadeth into *Caermarden-shire*; an indifferent good Town, governed by a *Port-Reive* and *Steward*, and hath a Market on *Tuesdays*, which is well resorted unto for Grain and Provisions, and from the latter end of *April* to the beginning of *July*, is very great for *Sheep*, *Heifers*, *Cows* and *Calves*.

Aberysthwy. *Aberysthwy*, seated on a Rising-ground, and on the Banks of the *Ridall*, near its influx into the Sea; a Town once strengthned with a *Wall* and *Castle*, now ruinated. It is a long and ill-built Town, governed by a *Major*, with sub-Officers, hath a very great Market for *Corn*, *Wool*, *Cheese*, and *Provisions*, on *Mondays*, and is a place much resorted unto by reason of its *Fishing-trade*, and would be more were its Inhabitants industrious.

Near unto this Town is *Lhan-Badernvaur*; a well-built Town, graced with a fair *Church*, which was formerly an *Episcopal See*, and is now the *Parish Church* of *Aberysthwy*.

County of *Caermarden.* *CAERMARDEN-SHIRE* is generally of a fertil Soil both for Tillage and Pasturage, as not being so Mountainous as its Neighbouring Counties, and is well watered with Rivers, as the *Towye*, *Tavy*, *Lough*, or *Taff*, which (with others) discharge themselves into the Sea, plentifully serving the Inhabitants with *Fish* and *Fowl*; and in many places are dug *Pit-Coal*.

Here are seated 87 *Parish Churches*, and is traded unto by 8 *Market Towns*.

Caermarden. *Caermarden*, pleasantly seated on the *Towy*, over which it hath a fair *Stone-bridge*, and is navigable for small Vessels, having a good *Key* for the lading and unlading of their Merchandizes. It is a place well inhabited and traded unto, and as a *Town Corporate* is governed by a *Major*, 2 *Sheriffs*, elected out of 16 *Burgesses* or *Aldermen*, all clad in Scarlet, with other sub-Officers. Amongst its Immunities electeth a *Parliament man*, keepeth Courts for the trial of Causes, is the place where the *Assizes* are held, and hath weekly two Markets, on *Wednesdays* and *Saturdays*, which are very great for *Corn*, *Cattle*, and Provisions, both *Flesh*, *Fish*, and *Fowl*, in great plenty. This Town glorieth in giving birth to *Merlyn*, that famous *British* Prophet, or South-sayer.

Llangharn. *Llancharn*, or *Llangharne*, seated on the *Towye*, near its influx into the *Sea*; a well-built Town, of some Trade, having several Vessels belonging to it, and its Market, which is on *Fridays*, is very good for Corn and Provisions.

Near unto this Town is a *Wich*, or *Salt-work*, where good quantity of *Salt* made.

Llanelly,

Llanelly, seated on a Creek of the Sea; a pretty good Town, which is well traded unto for *Sea-Coal*, and hath a Market on *Thursdays*, of good account for all sorts of *Cattle*, *Corn*, and *Provisions*. *Llanelly.*

Llandilovawre, seated on the *Towy*, over which it hath a fair Bridge; a pretty good Town, having two Markets weekly, on *Tuesdays* and *Saturdays*, for *Cattle*, *Corn*, and *Provisions*; and the Parish to which this Town belongeth is about 3 miles in length, and 7 or 8 in breadth. *Llandilovawre*

Llanymdofry, seated amongst Rivers; a pretty fair *Bailywick* and *Town Corporate*, and hath two very great Markets weekly, on *Wednesdays* and *Saturdays*, for Provisions, and the greatest in the County for *Cattle* and *Sheep*. *Llanymdofry.*

County of *Glamorgan* described. The County of *GLAMORGAN* is of a temperate and healthful Air, and of a different Soil and Situation, the Northern parts being extreamly Mountainous, full of thick Woods, very barren, and thinly inhabited; yet are found to feed good Herds of Cattle, and to send forth several fresh Streams, the chief amongst which are the *Tawye*, *Taff*, *Ogmore*, *Rumney*, *Elay*, *Nid* or *Neath*, &c. and the Southern part, which is washed by the *Severn Sea*, and receiveth the said Rivers, is more upon a level, is very fertil both for *Corn* and feeding of great quantities of *Sheep* and *Cattle*, is well inhabited, and thick beset with Towns and Houses of the Gentry.

This County numbreth 118 *Parish Churches*, and hath the accommodation of 8 *Market Towns*.

Cardiff, the faireſt Town in all South *Wales*, well seated on the River *Tave*, or *Taff*, over which it hath a fair *Bridge*, to which Vessels of small burthen do come to lade or unlade their goods; and in a rich and fertil Soil both for Tillage and Pasturage. It is a large and well built Town, with good ordered and clean Streets, containing within its Walls two Parishes, but hath but one Church; without the *East-Gate* is a large Suburb called *Crockerton*, without the *North-Gate* stands the *White-Friers*, and without the *West-Gate* a small Suburb adjoyning to the *Black-Friers*, and in this part is seated the *Castle*, which is a strong, spacious, and stately Building. It is a *Town Corporate*, governed by a *Constable*, 12 *Aldermen*, as many Capital *Burgesses*, a *Steward*, *Town-Clerk*, with sub-Officers, enjoyeth several Immunities, electeth a *Parliament man*, is the place where the Assizes are kept; is well frequented and traded unto, its Inhabitants having a great intercourse of Traffick with *Bristol*, and its Markets on *Wednesdays* and *Saturdays* are very good, especially that on *Saturdays*, which is the best in the County, and very considerable for *Cattle*, *Corn*, *Swine*, *Sheep*, and all sorts of Provisions in great plenty, and at easie rates. *Cardiff.*

Llandaff, a City seated on the *Taff*, but of a small extent, scarce comparable to an indifferent Town, having not so much as a Market kept, which is occasioned by its vicinity to *Cardiff*. Its *Cathedral* is a spacious and superb Structure, and near adjoyning are the Ruins of an Old *Castle*, which was the ancient Palace of the Bishops. *Llandaff.*

Neath, seated on a River so called, over which it hath a Bridge, to which small Vessels come for the lading of *Coals* here had in great plenty to the profit of its Inhabitants. It is a Town of great antiquity, and of a good extent, yet is it indifferent large, is governed by a *Port-Reve*, and hath a good Market for Provisions. *Neath.*

Swansey, commodiously seated on the Sea-shoar, an ancient *Port-Reve Town*, which is large and well built, which for Riches and Trade is esteemed the chief in the County, and that by reason of their *Coal-Pits*, and the great industry of its Inhabitants. It hath weekly two Markets, on *Wednesdays* and *Saturdays*, which are very well frequented and traded unto, affording great plenty of Commodities and Provisions. *Swansey.*

County of Pembroke described.

PEMBROKE-SHIRE, is of fertil Soil both for Tillage and Pasturage, is well stored with Cattle, and replenished with Rivers, which (with the Sea) plentifully serveth the Inhabitants with *Fish* and *Fowl*, and in the bowels of the Earth are plenty of *Pit-Coal*.

It is well inhabited and garnished with Towns, numbring 145 *Parish Churches*, and is traded unto by 8 *Market Towns*.

Pembrook.

Pembrook, the chief Shire-Town, seated on the Eastern and innermost Creek of *Milford-Haven*, over which it hath two fair Bridges for the conveniency of passage. It is a place of good account, well frequented and inhabited by Gentlemen and Tradesmen, is much resorted unto by Shipping, by reason of which they have a *Custom-house*. It is a place of good strength, being fortified with a Wall, on which are several Towers, having three Gates for entrance, and also with a strong Castle seated on a Rock. It is a large *Town Corporate* containing two *Parish Churches*, is graced with well built Houses, is governed by a *Major*, with other sub-Officers, enjoyeth several Immunities, sendeth a *Burgess* to Parliament; and its Market, which is on *Saturdays*, is very good, and well served with Provisions, &c.

Milford-Haven.

This *Milford-Haven* is esteemed the best in all *England*, not only for its largeness, being capacious enough to give entertainment to about 1000 Sail of *Ships* at one time, and to ride secure at a good distance one from the other; but also for its variety of deep and safe Creeks and pooled Bays for *Ships* to harbour in, having within it 13 *Roads*, 16 *Creeks*, and 5 *Bays*, all which are known by their several names.

St. Davids.

St. Davids, seated within a mile of the Sea in a barren Soil, and very destitute of Wood. It was once a City of good account, but at present is very small, but thinly inhabited, and its Market disused; yet is it the See of a *Bishop*, and its *Cathedral* kept in good order, but the *Bishops Palace* is much ruinated.

Near unto St. *Davids* is a Promontory called *St. Davids Land* or *Head*, from whence in a clear day *Ireland* may be seen; and on the Rocks in these parts the *Falcons* have their *Airies* and breed. Also here is *Whitesand-Bay*, and at the extream point of the Promontory *Ramsey Isle* sheweth it self, nigh to which are several small ones, which together bear the name of the *Bishop* and his *Clerks*.

Haverford-West.

Haverford-West, a Town and County of it self, commodiously seated on the side of a Hill, and on a Creek of *Milford-Haven*, over which it hath a good *Stone-Bridge* which leadeth to *Prendergast*, where there is a Church. It is a very large and fair *Town Corporate*, containing three *Parish Churches*, is beautified with good Houses, is well inhabited, enjoyeth a good Trade, having several Vessels belonging to the Town; is the place where the *Assizes* are held, and the *County Gaol* kept, and hath weekly two Markets on *Tuesdays* and *Saturdays*, which are very great for Cattle and Provisions. It is governed by a *Major*, a *Sheriff*, and *Common Council*, with *Justices* of the *Peace*; it enjoyeth several Immunities, keeping Courts, and sending a *Burgess* to Parliament; and near to this Town divers Gentlemen have their Seats.

Tenby.

Tenby, seated on the Sea-shoar, where it hath a commodious *Haven* or *Road* for Ships, being formerly much frequented, especially by *Fishermen*, having a good *Key*, enjoyeth a considerable Trade, and its Inhabitants were wealthy; but the Spoils it suffered in the late Wars hath much impoverished it, notwithstanding it keeps its two Markets weekly, on *Wednesdays* and *Saturdays*, which are very well resorted unto for *Corn*, *Provisions*, and *Fish*.

Newport.

Newport, seated near the Sea-shoar, and on the foot of a high Hill; a large, but ill built and inhabited Town, governed by a *Port-Reeve* and a *Bailiff*, and hath a good Market for *Corn*, *Cattle*, and *Provisions*; and here is a *Wear* for Fishing.

RAD-

County of Radnor described.

RADNOR-SHIRE. This County is of a sharp and piercing Air, and very ungrateful to the Husbandman, as being so Mountainous and Rocky; yet is it well watered with Rivers.

It hath but 52 *Parish Churches*, and is traded unto with three *Market Towns*.

New Radnor.

New Radnor, well seated near the Spring-head of the *Somergil*, and in a pleasant Valley, at the foot of a profitable Hill for the feeding of *Sheep* and *Cattle*, called the *Forrest* of *Radnor*. It is a very ancient *Town Corporate*, whose Jurisdiction reacheth 10 or 12 miles in compass, is governed by a *Bailiff* and 25 *Burgesses*, enjoyeth large Immunities, and hath the election of a *Parliament man*. It had formerly a Market on *Tuesdays*, but now disused.

Prestaine.

Prestaine, seated on the *Lug*, and in a pleasant and rich Vale, which from a small Village in former days, is now become a fair large and well built Town, with paved Streets, is well inhabited and frequented, where the *Assizes* are held, and the *County Gaol* kept; and its Market, which is on *Saturdays*, is very good for Provisions and Grain, especially *Barly*, of which they make good store of *Mault*.

Knighton.

Knighton, seated in a Valley, and on the *Teme*, over which it hath a Bridge; a very fair and well built *Borough Town*, of a good resort, whose Inhabitants enjoy a good Trade, and its Market on *Tuesdays* is very well served with *Cattle*, *Corn*, *Provisions*, *Iron-ware*, *Hops*, *Salt*, *Linnen* and *Woollen*, and other Commodities.

The Kingdom of SCOTLAND, as it is divided in

- Firm Land, where are thirty five Provinces, to wit,
  - Thirteen beyond the TAY (which with the Province of LORNE, made the ancient Kingdom of the SCOTS,) whereof
    - Five are towards the NORTH and WEST; as,
      - Strath-Navarn, — Strabubaſter, Tounge.
      - Cathanes, — Girnego, Wick.
      - Sutherland, — Dornok, Dunrobin.
      - Roſſe, — Skyraſſin, Cromarty, Canonry, Lovet.
      - Loquabrea, — Kyntaile, Innerlethey.
    - Eight towards the EAST and SOUTH; as,
      - Murray, — Elgin, Inverne, Forres, Rothes, Bean, Narden, Badgenoth.
      - Bucquhan, — Rothemay, Stanes.
      - Marria, — Aberdean, New Aberdone, Kildrumy.
      - Mernis, — Fordon, Dumnocyr.
      - Anguis, — Brechin, Monroſs, Dunde, Glammes, Forfar.
      - Perth, — Perth, Scone, Dunkeldon.
      - Athole, — Blaire.
      - Braidalbin, — Encerlochea.
  - Twenty two on this ſide the TAY (which, except the County of LORNE, made the ancient Kingdom of the PICTS) whereof
    - Nine are towards the Gulph of DUNBRITTON; as,
      - Lorne, — Dunſtaffage, Tarbart, Bergonum.
      - Cantyr, — Swin, Sandell.
      - Arran, &c. — Arran, Rothſay.
      - Argile, — Duwwin.
      - Lennox, — Dunbriton.
      - Cuningham, — Yrwin, Androſſan, Largis, Kilwein.
      - Kyle, — Ayre, Uchiltre.
      - Carrickt, — Bargeny, Blaquhan.
      - Galloway, — Witherne, Wighton, Kirkoubrick, Cardines.
    - Six towards the Gulph of EDINBURGH; as,
      - Fife, — St. Andrews, Cupre, Difert, Kinghorne.
      - Strathnaverne, — Abergeny.
      - Menteith, — Dumblain, Clackmannan.
      - Striveling, — Sterling.
      - Linlithquo, — Linlithquo, Falkirck.
      - Lothien, — Edinburgh, Dunbar, Leith, Haddington, Dalkith.
    - Seven in the Valleys towards ENGLAND; as,
      - Cluydeſdale, — Glaſgow, Lanrick, Hamiltown, Reynfraw, Douglaſdale.
      - Nitheſdale, — Dumfreis, Solway.
      - Anandale, — Anan, Lochmabain.
      - Liddeſdale, — Harlay.
      - Eſkdale, — Aefica.
      - Teiſedale, — Peblis, Selkkirck, Drimlar, Roxburgh, Yedburg.
      - Merch, — Hum, Coldingham.
- ISLES, which make three Bodies, viz. thoſe of
  - ORCADES, to the North of SCOTLAND, — Mainland, — Kirkewall.
  - SCHETLAND, to the N. North-eaſt of ORCADES, — Mainland, — Burgh.
  - HEBRIDES, or Weſtern Iſles, — To the Weſt of SCOTLAND, among the which are
    - Lewis, — Sterwaye.
    - Skye, — Tranternes.
    - Kuit, — St. Maria.
    - Ila, — Dunweg.
    - Sura, — Sodore.
    - Mulla, — Arrois.
    - Colm-kill, — Colm-kill.
    - Rawghlin, — Dowaneny.

The

The Kingdom and Iſle of IRELAND, hath formerly been divided into four Kingdoms, which are at this day as many Provinces, which are ſubdivided into Counties, and thus ſcituated, *viz.*

- Towards the NORTH, the Province of ULSTER; where are the Counties of
  - Dunagall, or Tyrconnell, — Donegal, Derry, or London Derry, Calebeek, Tirconnel.
  - Upper Tyroen, — Strebane.
  - Lower Tyroen, — Dungannon.
  - Golrane, — Colrane.
  - Antrim, — Knoekfergus, Antrim.
  - Downe, — Downe, Newry, S rangford, Arglaſs.
  - Louth, — Trodaugh, Dundalke, Carlingford, Ardeth.
  - Armagh, — Armagh, Mountnorris.
  - Monaghan, — Clogher, Churchland.
  - Cavan, — Cavan, Kilmore.
  - Fermanagh, — Baltarbet.
- Towards the SOUTH, the Province of MOUNSTER; where are the Counties of
  - Tipperary, or Holy-Croſs, — Caſſile, Holy-Croſs, Clomel, Caryck, Emeley.
  - Lymerick, — Lymerick, Kilmalock.
  - Kerry, — Dingle, Ardart, Trayley.
  - Deſmond, — Donekyran, Downbay.
  - Corke, — Corke, Kinſale, Roſs, Yoghall, Cloney.
  - Waterford, — Waterford, Dungarvan, Ardmor, Lifmore.
- Towards the WEST, the Province of CONNAUGHT; where are the Counties of
  - Majo, — Killaloy, Refraine.
  - Slego, — Slego, Dundroes, Dunbroyle.
  - Galloway, — Galloway, Kilmaculo, Clonford, Kingstown.
  - Clare, or Twomond, — Clare, Kylaloe, Kilfenerog, Toam.
  - Roſſecoman, — Roſſecoman, Atlon, Omacoghlan, Elphin.
  - Letrym. — Letrym, Mewkerke, Achonry.
- Towards the EAST, the Province of LEINSTER; where are the Counties of
  - Dublin, — Dublin, Newcaſtle, Houth, Malcheal, Wicklo, Glandelour, Malchid.
  - East Meath, — Trim, Aboy, Slane, Galtre.
  - West Meath, — Molingar, Delvin, Kelskeay.
  - Longford, — Longford, Ardragh.
  - Kildare, — Kildare, Mainoth, Athie, Carbre.
  - Kings County, — Philipstown, Lee.
  - Queens County, — Queenstown, Rheban.
  - Caterlough, — Caterlaugh, Carickbrak, Areklo.
  - Wexford, — Wexford, Roſs, Ternes, Enifcorr.
  - Kilkenny, — Kilkenny, Thomas Town, Callan.

SCOT-

SCOTLAND.

Its situation.

THE Kingdom of *SCOTLAND* maketh the Northern part of *Great Britain*, and is divided from *England* by the Rivers *Tweed* and *Solway*, together with the *Cheviot-Hills*. A Country formerly inhabited by the *Picts*, who were divided into two Nations, *viz.* the *Dicalidonii* and the *Vecturiones*; but when the *Scots* became the chief Rulers (as Mr. *Cambden* noteth) it was shared into seven Parts, and amongst as many Princes. The first contained *Enegus* and and *Maern*; the second, *Atheold* and *Goverin*; the third, *Stradeern*, with *Meneted*; the fourth, *Forthever*; the fifth, *Mar*, with *Buchen*; the sixth, *Muref* and *Roß*; and the seventh, *Cathanes*, which *Mound* a Mountain in the midst divideth, running on forward from the West Sea to the East.

Ancient Inhabitants.

Ancient division.

It was also (according to the relation of *Andrew* Bishop of *Cathanes*) severed into seven Territories, which Mr. *Cambden* also taketh notice of, as followeth. The first, from *Frith* or *Scotwade* to the River *Tae*; the second to *Hilef*, according as the Sea fetcheth a compass to the Mountain *Athran* in the North-east part of *Strivelin*; the third, from *Hilef* to *Dee*; the fourth, from *Dee* to the River *Spe*; the fifth, from the *Spe* to the Mountain *Brunalban*; the sixth, *Mures* and *Roß*; and the Seventh, the Kingdom of *Argathel*, which is the Border of the *Scots*.

Modern division, and its Inhabitants.

But the Kingdom at present, according to the habitation of the People, may be divided into *Highland-men* and *Lowland-men*; or into the Northern and Southern parts. The People of the former live either on the Western Coast, and are very rude, having much of the nature, disposition, speech, and habit of the *Tories* or *wild Irish*, or in the out Isles, and are utterly Barbarous. The *Lowlanders*, as bordering on *England*, have much of the disposition, civility, language, and habit of the *English*, and are supposed to be descended from the *Saxons*; which is confirmed by the *Highlanders*, who are the true *Scoti*, and are supposed to descend from the *Scythians*, who with the *Getes* infesting *Ireland*, left their Issue behind them.

Its extent.

This Kingdom is very spacious, extending it self from North to South about 250 miles in length; and in breadth, where broadest, about 150; but contracting it self narrower and narrower as it approaches its extream Northern limits, as doth appear by the Map.

Its name.

It is said to have been called *Scotia* from *Scoti*, *Scitti*, or *Scythi*, a People of *Germany*, over whose Northern limits the name *Scythia* did extend; although there be many that will have it to be so called from *Scota*, Daughter to an *Egyptian Pharaoh*.

Its fertility and commodities.

Although this Kingdom is less fertil than *England*, and its Fruits not so plentiful, nor so pleasing to the palate, (occasioned through the coldness of the Clime,) yet is it found to have great plenty of Cattle, though but small; and for *Fish* and *Fowl* an innumerable quantity, amongst which is a Fowl called the *Soland-Geese*, which in many places are taken in very great plenty, and are found very profitable to the Inhabitants, not only for their Flesh to eat, but for their Feathers and Oil. Their chief Commodities are *Course Cloths*, *Freezes*, *Lead-Oar*, *Feathers*, *Sea-Coal*, *Alum*, *Iron*, *Salt*, *Salt-Peter*, *Linnen-Cloth*, *Train-Oil*, *Hops*, *Wood*, *Alablaster*, some *Hides* and *Tallow*, &c.

The

Its Inhabitants.

The Inhabitants (especially those Southernly) are of a good feature, strong of body, very hardy, couragious, and fit for Martial affairs; and their *Nobility* and *Gentry*, which are of several degrees, as *Dukes*, *Marquesses*, *Earls*, *Viscounts*, *Barons*, *Knights*, *Esquires*, and *Gentlemen*, are generally very ingenuous, and accomplished men in all civil knowledge.

Nobility and Gentry of *Scotland*.

This Kingdom, like unto *England*, consisteth of a *King*, *Nobility*, *Gentry*, and *Commons*; and these with the *Lords Spiritual*, assemble together in Parliament, as often as they are called together by Writ from the King: And by reason of his Majesties residence in *England*, so that he is not here at their *Sessions* of *Parliament*, he constituteth and sendeth one to act as his *Vice-Roy*, who is commonly called *Lord Commissioner*; and such at present is the Right Noble *John*, Duke of *Lotherdale*, &c.

Their Sessions of Parliament.

Things worthy of note.

Amongst the things worthy of note in this Kingdom for Antiquity, famous was that Fortification drawn from *Abercorne* upon *Edenborough Frith* unto *Alcluyd*, now called *Dunbritton*, opening upon the West Sea, where (as *Speed* noteth) *Julius Agricola* set the limits of the *Roman* Empire, past which, according to *Tacitus*, there were no other bounds of *Britain* to be sought for. And here the second Legion of *Augusta*, and the twentieth of *Victrix*, built a part of the Wall; as also an ancient coped Monument of an high and round compass, which according to the opinions of some, was a Temple consecrated to the God *Terminus*; but others there be that will have it to be a Trophy raised by *Carausius*, who fortified this Wall with seven Castles.

Caledonian Wood.

Here began that Wood *Caledonia*, which name *Tacitus* attributeth to all that Tract of ground which lieth Northward beyond *Grahames Dike*, or the *Wall* of *Antonius Pius*, which *Ptolomy* divideth into several Nations, as the *Caledonii*, *Vacomagi*, *Epidii*, &c. who are all known to the *Romans* by the general name of the *Picts*, from their painting themselves. This *Wood* or *Forrest* was very spacious; and over-shadowed with Thickets and tall over-spreading Trees, which rendred it impassable, and was divided by *Grampe-Hill*, now called *Grantzbain*, that is, the crooked bending Mountain. *Solinus* is of opinion that *Ulysses* was in *Caledonia*, and to confirm his belief therein, he saith, there was a *Votive Altar* with an Inscription in Greek Letters. *Plutarch* saith, that *Bears* were brought out of *Britain* to *Rome*; but for more truth it may be said, that here were bred the wild *white Bulls*, a Beast of nature fierce and cruel, whose thick and curled manes resembled the *Lions*. In the days of *Severus Argetecox*, a petty Prince reigned over this Tract of Ground, whose Wife being reproachfully called by *Julia* the Empress, an *Adultereß*, boldly made this Answer, *We* British *Dames have to do with the best of men, but you* Roman *Ladies secretly commit the same with every base and lewd Companion.* *Cambden*, p. 32.

Two famous Loughs.

In this Kingdom are two famous Loughs, *Nessa* and *Lomund*, the former never Friezeth though in the extreamest cold weather; and the waters of the latter, most raging in the calmest and fairest weather; and herein is an Island, that the Wind forceth or moveth to and fro.

In the Rivers *Dee* and *Done*, besides the great abundance of *Salmons*, is taken a *Shell-fish*, called the *Horse-muskle*, wherein *Pearls* are engendred, which are very good in many *Physical Medicines*, and some of them not much inferiour to the *Oriental Pearl*.

Courts of Judicature. Court of Parliament.

As to their Courts of *Judicature* they are peculiar to themselves, and are several. The chief amongst which is the *High Court* of *Parliament*, consisting of *Lords* and *Commons*, hath the same Authority as that of *England*, and is also summoned by Writ from his Majesty at his pleasure, as occasion requireth.

Colledge of Justice.

The second Court is the *Sessions*, or *Colledge* of *Justice*, consisting of a *President*, 14 *Senators*, 7 of the *Clergy*, and as many of the *Laity* (unto whom was afterwards adjoyned the *Chancellor*, who is the chief, and 5 other *Senators*) besides 3 principal *Scribes* or *Clerks*, and as many *Advocates* as the *Senators* see convenient: And this was thus constituted by King *James* the Fifth in *Anno* 1532, after the form of the Parliament at *Paris*. These sit and administer

administer Justice with equity and reason, and not according to the rigour of the Law, every day (except *Sundays* and *Mondays*) from the first of *Novemb.* to the 15 of *March*; and from *Trinity Sunday* to the first Calends of *August*; and all the time between (as being either Seed-time or Harvest) is vacation. They give judgment according to the *Parliament-Statutes*, and *Municipal Laws*; and where they are defective, they have recourse to the Imperial *Civil Law*.

Other Courts. There are likewise in every Shire or County *inferiour Civil Judicatories* or *Courts* kept, wherein the *Sheriff* of the Shire, or his *Deputy*, decideth the Controversies and Law-suits of the Inhabitants; from which there are oft-times Appeals to the Sessions or Colledge of Justice. And these *Sheriffs* are for the most part Hereditary.

Besides these Courts, there are other Judicatories, which they call *Commissariots*, the highest whereof is kept at *Edenburgh*; and these have to do with Ecclesiastical affairs, as, *Wills* and *Testaments*, *Divorcements*, *Tithes*, &c.

In criminal Causes, the Kings *Chief Justice* holdeth his Court at *Edenburgh*.

Likewise the *Sheriffs* in their Territories, and the *Magistrates* in some Boroughs may sit in Judgment of *Manslaughter*, in case the *Manslayer* be taken within 24 hours after the fact committed, and being found guilty by a Jury, may be put to death; but if the said limited time is past, the matter is referred, and put over to the Kings Justice, or his Deputies.

There are also *Civil Courts* in every Regality holden by their *Bailiffs*.

Ecclesiastical Government. This Kingdom, as to Ecclesiastical Government, is divided into two *Archbishopricks*, *viz.* of St. *Andrews* (the Primate of *Scotland*) and of *Glasco*; and under these are several *Suffragan-Bishops*, *viz.* under him of St. *Andrews*, those of *Dunkeld*, *Aberdon*, *Murray*, *Dunblan*, *Berchin*, *Ross*, *Cathanes*, and *Orkney*: And under him of *Glasco*, those of *Galloway*, *Argile* or *Lismore*, and the Isles.

Ancient Inhabitants of *Scotland*. The ancient People of this Kingdom were, 1. The *Gadeni*, who possessed the Counties of *Lothien*, *Merches*, and *Teisidale* or *Tivedale*. 2. The *Selgovæ*, or Counties *Liddisdale*, *Eusedale*, *Eskedale*, *Annadale*, and *Nidthesdale*. 3. The *Novantes*, or Shires of *Galloway*, *Carrickt*, *Kyle*, *Cunningham*, and *Arran*. 4. The *Damnii*, or Counties of *Cludesdale*, *Striveling*, *Lennox*, *Menteith*, and *Fife*. 5. The *Caledonii*, or Shires of *Stratherne*, *Argile*, *Cantire*, *Lorne*, *Albany* or *Bruidalbin*, *Perch*, *Athol*, and *Angus*. 6. The *Vermines*, or Counties of *Mernis* and *Marr*. 7. The *Talgali*, or County of *Buquhan*. 8. The *Vacomagi*, or Counties of *Murray* and *Loquabrea*. 9. The *Cantæ*, or Shires of *Ross* and *Sutherland*. 10. The *Catini*, or County of *Cathanes*: And 11. the *Cornubii*, or County of *Strathnaverne*.

Scotland divided into Sheriffdoms. These parts are again (according to their *Civil Government*) divided into *Sheriffdoms*, *Stewarties*, and *Bailiffwicks*; *viz.* the Counties or Sheriffdoms of *Edenburgh*, *Lynlythio*, *Selkirk*, *Roxburgh*, *Peblis*, *Berwick*, *Lanarke*, *Renfrew*, *Dunfreis*, *Wighton*, *Aire*, *Bute*, *Argile*, *Tarbet*, *Dunbarton*, *Perch*, *Clackmannan*, *Kinros*, *Fife*, *Kincardin*, *Forfair*, *Aberdene*, *Bamff*, *Elgin*, *Forres*, *Narne*, *Innerness*, *Cromartie*, *Orknay*, and *Shetland*.

Stewarties. The *Stewarties* of *Menteith*, *Kircudbrieht*, *Stratherne*, and *Annandale*.

Bailywicks. The Bailiwicks of *Kile*, *Carrickt*, and *Cunningham*.

Its further divisiion. Again, *Scotland* (according to the scituation of its Parts, Provinces, or Counties) may be divided into two parts, to wit, Southwards, and on this side the *Tay*, which made the ancient Kingdom of the *Picts*, (so called, for that they painted their Bodies like the ancient *Britains*, from whom they are said to descend, which is the more confirmed, for that the Northern *Britains*, converted to the Faith by St. *Colombe*, were called *Britain Picts*.) And Eastwards, Northwards, and beyond the *Tay*, which made the ancient Kingdom of the *Scots*; besides abundance of *Isles* dispersed in its Northern and Western Seas, the chief of which shall be treated of.

The

Its Counties. The Counties comprehended in the South-part, are *Lothien*, *Merche*, *Teisidale* or *Tivedale*, *Eskdale*, *Euskdale*, *Liddesdale*, *Annadale*, *Nydthesdale*, *Galloway*, *Carrickt*, *Kyle*, *Cunningham*, *Cludesdale*, *Lennox*, *Striveling*, *Menteith*, *Fife*, *Stratherne*, *Argile*, *Lorne*, *Cantyre*, and *Arran*. And these in the North part are, *Albany* or *Badalbin*, *Perch*, *Athol*, *Anguis*, *Mernis*, *Buquhan*, *Marr*, *Muray*, *Loquabrea*, *Ross*, *Sutherland*, *Strathnaverne*, and *Cathanes*. And of these in order.

Its name and fertility. The County of *Lothien*, in former times by the *Picts* called *Pictland*, shooteth it self forth from *Merche* unto the *Sea*; a Country very Hilly, and but thinly clothed with Wood: but for the fertility of its Earth, and the civility of its Inhabitants, is deservedly esteemed the flower of all *Scotland*. The chief places are,

Its chief places. *Edenburgh*, or *Edenborow*, of old, *Castrum Alatum*, the Metropolis of the Kingdom. Its scituation is high, in a wholsom Air, and rich Soil; and by reason of its commodious Haven (called *Leth-Haven*, not above a mile distant) it is a place of good Trade, and well resorted unto by Shipping. This City chiefly consisteth of one Street, which runneth about a mile in length, which receiveth divers petty Streets and Lanes, so that its circuit may be about three miles, which is strongly begirt with a Wall; and at the West-end of the City, on the top of a Rock, is seated a fair and powerful *Castle*, with many *Towers*, which commands the City, and is esteemed in a manner impregnable. It belonged once to the *English*, till in *Anno* 960. the *Scots* took it from them, when oppressed by the *Danish* Tyranies. It is well watered with clear *Springs* and *Fountains*, is adorned with many fair *Edifices*, as well publick as private, the principal amongst which is the *Kings Palace*, a fair Structure; and its private Houses are generally fair, lofty, built of *Free-stone*, and so well inhabited, that several Families have their abodes under one Roof. It is also dignified with the *Courts* of *Judicature*, *High Courts* of *Parliament*, and with an *University*. And being the Scale of Trade for the Kingdom, it will be necessary to give an account of their *Coins*, *Weights*, and *Measures*. As to their *Coins*, note that $13\frac{1}{3}$ *d. sterling*, makes a Mark *Scotch*; $6\frac{1}{4}$ *d. sterling*, a *Scotch* Noble; and 20 *d. sterling*, a *Scotch* Pound. Their *Weight* used in Merchandizes, is the *Pound* of 16 *Ounces*, 100 of which make their *Quintal* or C, which is found to make at *London* 108 *l. Averdupois*. Their *Measures* for length is the *Ell*, and is about 4 *per Cent.* greater than the *English* Ell. Their *Liquid Measures* are such as in *England*, but of a double content, a Pint being an *English* Quart, and so answerable. Their *Dry Measures* are also the same with those of *England*, but also bigger.

Edenburgh. Their Coins, Weights, and Measures.

Athelstanford, so called from *Athelstane*, a chief Commander of the *English*, which was there slain with most of his Men, about the year 815. *Athelstanford.*

Haddington, seated in a wide and broad Plain; a place of good account, and which the *English* fortified with a deep and large Ditch, and other Fortifications. *Haddington.*

Dunbar, scituate on the Sea-shoar, once defended by a strong *Castle*, which was the Seat of the Earls of *Merch*; a place which hath oft-times been taken by the *English*, and as often retaken by the *Scots*, which was the cause of its demolishment; since which it is honoured with the Title of an *Earldom*. *Dunbar.*

North-Barwick, seated on *Edenbrough-Frith*, a place in former Ages famous for its House of *Religious Virgins*. *North-Barwick.*

Not far from this place, and near the Shoar, lieth a small *Isle* called *Bass-Island*; which seemeth to be a high craggy Rock, and to be almost cut through by the undermining *Sea-waves*. It hath a *Fountain* of *Water*, and fresh *Pastures*; and above all is remarkable for the exceeding great abundance of those *Geese* called *Scouts* and *Solland-Geese*, which here frequent and breed, which (as I before noted) is very profitable to the Inhabitants in these parts. *Bass-Island.*

Lyth, hath a most commodious Haven, being the present Port to *Edenburgh*. *Lyth.*

Abercorne, seated on the *Forth* or *Frith*, in former time of note for its famous *Monastery*; as at present for giving Title of an Earldom unto the Duke of *Hamilton*. *Abercorn.*

Linqo. *Linquo*, or *Linlithquo*, said to be the ancient City of *Lindum*, mentioned by *Ptolomy*; a place once beautified with a House of the Kings, and a fair Church.

County of *Merch* described. *MERCH*, a County so called, as being a *March*; it is wholly on the *German Ocean*, was of great note for its *Earls* thereof; and hath for its chief places,

Cadingham. *Coldingham*, called by *Bede* the City *Coldana*; a place of great antiquity and note for its chast *Nuns*; for it is said, that they (together with *Ebba* their *Prioress*) cut off their own *Noses* and *Lips* to render themselves deformed, that the *Danes* might not deflour them; but this so exasperated them, that they not only burnt their Monastery, but them therein.

Fast-Castle. Not far from *Coldingham* is *Fast-Castle*; and here the Sea thrusteth it self forth into a Promontory called *St. Abbs-head*.

Kelso. *Kelso*, formerly famous for its *Monastery*, which (with thirteen others) King *David* the First raised from the ground, for the advancement of Gods glory.

Its chief places. *TEIFIDALE*, that is, the *Vale by the River Teifie* or *Teviat*, adjoyning to *England*; a craggy hilly Country. Its chief places are,

Roxburg. *Roxburg*, which gives name to a Territory adjoyning, seated between the Rivers *Tweed* and *Teifie*, once a place of great strength, being defended by a *Castle* and towred Fortifications; and here it was that King *James* the Second of *Scotland*, was unfortunately slain by the breaking of a *Cannon* at the Siege.

Jedburgh. *Jedburgh*, a well frequented and inhabited *Borough-Town*, seated near the confluence of the Rivers *Teviat* and *Ted*.

Peblis. *Peblis*, seated on the *Tweed*, and a branch thereof; a *Market-Town* of some account.

Mirlos. *Merlos*, seated also on the *Tweed*, formerly of note for its ancient Monastery of cloistered *Monks*, that gave themselves to Prayer, and to get their livings by their handy labour; and this place holy King *David* restored, and replenished with *Cistertian Monks*.

Eskdale. *ESKDALE*, a small Territory, so called from a River which passeth through it; its chief place was,

Æsica. *Æsica*, that ancient City, wherein the Tribune of the first Band of the *Astures* kept *Watch* and *Ward* against the Northern Enemies.

Euskdale. *EUSKDALE*, another small Territory, which takes its name from the River that watereth it.

Liddisdale. *LIDDISDALE*, also another small Territory, which receiveth its name from the River that passeth through it. Its chief places are,

Brankensey, &c. *Brankensey*, *Harlay*, and *Armetage*.

ANNADALE, that is, the *Vale by the River Annan*. Its chief places are,

Annadale. *Annadale*, seated at the Mouth of the River *Annan*. And

Lough-Mahan. *Lough-Mahan*, a Town of good strength, as well by Nature as Art; nigh unto which is a strong *Castle*.

Of a fertil Soil. *NITHESDALE*, or *NIDDESDALE*, a County so named from the River *Nid*, which watereth it; a County of a fertil Soil, which beareth good Corn, hath rich Meadows and Pastures; and in the *Solway*, which watereth its Southern part, are taken great store of excellent *Salmons*, which the Inhabitants (for their Recreation) oft-times hunt on Horse-back with *Spears*. Its chief places are,

Dunfreys. *Dunfreys*, seated between two Hills, and on the River *Nid*, near its influx into the *Solway*, once strengthned with a *Castle*; a Town of good account for making of *Woollen-Cloths*; but more remarkable for the Murther of *John Cummin*, a man of great eminency amongst the *Scotch*, who was slain by *Robert Brus* in the Church, out of fear lest he should fore-close his way to the Kingdom.

Solway. Nigh unto this Town is *Solway*, a small place, which seemeth to retain something of the old name of *Selgovæ*.

Caer-

Caer-Laverock. *Caer-Laverock*, seated at the Mouth of the *Nid*, in former time of so great strength, that (for a good while) it stoutly resisted the power of King *Edward* the First, who besieged it.

Corda. *Corda*, also a flourishing Town in former Ages.

GALLOWAY, a County so called of the *Irish*, who once here inhabited, in former times had *Princes* and *Lords* over it. It is a Country much inclined to Hills, which renders it more fit for Grasing than Tillage, breeding abundance of small and well limbed *Nags*, which for their nimbleness and hardiness are esteemed excellent for a Traveller: And the Sea, by which it is washed, together with its *Bays*, *Creeks*, *Meers*, and *Loughs*, affords the Inhabitants store of excellent Fish. Its chief places are,

Kircoubright. *Kircoubright*, the most commodious Port-Town on this Coast; and the second *Stewarty* of *Scotland*.

Cardines. *Cardines*, a place or Fort of great strength, as well by Nature as Art, being seated on a craggy high Rock, by the River *Fleet*, and fenced about with strong Walls.

Wigton. *Wigton*, seated on a Bay of the Sea, between the Rivers *Cre* and *Bladno*; a good Haven-Town.

Leucopibia. Not far from this Town, and on the Sea-shoar, *Ptolomy* placed the ancient City *Leucopibia*, which is now called *Wytherne*; and here it is said, *Ninia*, or *Ninian*, a holy *Britain*, who first instructed the *South-Picts* in the Christian Faith, in the Reign of the Emperour *Theodosius* the younger, had his Seat, and built a *Church* to the honour of St. *Martin*.

CARRICT, a County that hath rich Pastures, and is well furnished with all necessaries both by Land and Sea, where it beareth the name of *Dunbritain-Frith*; a large and capacious Bay, which with its *Rivers* and *Loughs*, affords its Inhabitants plenty of Fish. Its chief places are,

Barganie. *Barganie*, a place of great antiquity.

Arduntoun. *Arduntoun* and

Cosregal. *Cosregall*.

KYLE, a fertil County, and well inhabited; and hath for its chief places,

Aire. *Aire*, seated on a River so called, where it looseth it self into the *Frith*; a place of some account, being a *Sheriffdom*: And

Uchiltre. *Uchiltre*.

CUNNINGHAM, also washed with *Dunbritain-Frith*; a County no less commodious and fertil, than pleasant, being plentifully watered. Its chief places are,

Irwin. *Irwin*, a *Borough-Town*, seated on a River so called, at its influx into the *Frith*, where it hath a Haven, though now choaked up.

Largis. *Largis*, where *Alexander* the Third destroyed abundance of the *Norwegians*: And

Androsan. *Androsan*.

CLUDESDALE, a County so called from the River *Cluid*, that watereth it. Its chief places are,

Glasco. *Glasco*, pleasantly scituate on the River *Cluyd*, over which it hath a fair Bridge sustained by eight Arches. It is a City of good account, well frequented and inhabited, enjoyeth a good Trade, and is dignified with the See of an *Archbishop*, as also with an *University*.

Douglass. *Douglass*, seated on a River, and in a Vale so called.

Lanrick. *Lanrick*, the Hereditary Sheriffdom of the *Hamiltons*, who take their name

Hamilton. from *Hamilton-Castle*, seated on the fruitful Bank of the *Gluid*.

Renfraw. *Renfraw*, which gives name to a *Barony*.

Paslay. *Paslay*, in former times a famous Monastery, founded by *Alexander* the Second, High Steward of *Scotland*, which for a stately *Church*, with rich Furniture, was inferiour to few.

Lomond Lough. *LENNOX*, a County very Hilly, and well watered with Rivers, amongst which is the *Gluid*, and the large Lough *Lomond*, about 20 miles in length, and in breadth, where broadest, about 8; in which are many small Isles, amongst which some are said to float about; a place noted for great plenty of Fish, especially for a Fish called a *Polloc*, found no where else: This County is honoured in giving Title to the Right Noble the Duke of *Richmond* and *Lennox*, &c. Its chief places are,

Dunbritton. *Dunbritton*, that is, the *Britains Town*, for that the *Britains* held it longeſt againſt the *Scots*, *Picts*, and *Saxons*; being the ſtrongeſt place in all the Kingdom, as well by Nature as Art, being loftily ſeated on a rough, craggy, and two-headed Rock, at the meeting of the Rivers near the large Lough *Lomond*, and in a green Plain; in one of the tops is, or was placed a *Watch-Tower*, and on the other ſeveral Fortifications or Bulwarks; on the Eaſt-ſide it hath a boggy Flat, which at every Tide is covered with water, and on the South it hath the River *Cluid*.

Alcluyd. *Alcluyd*, an ancient City, by ſome ſaid to be the ſame *Dunbritton*.

Of a fertil Soil. *STRIVELING*, or *STIRLING*, a County of a fertil Soil, and well inhabited; and here is that narrow Land or Streight by which *Edenburgh-Frith* and *Dunbrith-Frith* (thruſting themſelves far into the Land, out of the Eaſt and Weſt Seas) are ſeparated from meeting together; which ſpace was fortified with Garriſons between, by *Julius Agricola*, ſo that all the part on this ſide was in the poſſeſſion of the *Romans*, and their Enemies were forced to retire themſelves into the more Northern and Hilly part of the Kingdom; but this laſted not long, for *Agricola* being called home, the *Caledonian Britains* forced the *Romans* back as far as the River *Tine*: and when *Hadrian* arrived in *Britain*, about 40 years after, inſtead of going farther, he gave command that the God *Terminus* (which uſed not to give ground to any) ſhould be withdrawn back; and that a Wall of *Turffs* (commonly now called *Grahams-Dike*) ſhould be made between the Rivers *Tine* and *Eske* Southward, on this ſide *Edenburgh-Frith*, for about 100 miles, which proved ſucceſsful unto them. And along this Wall hath been oft-times found ſeveral Inſcriptions, and pieces of *Romiſh* Antiquities. And of remark was that ancient round building, 24 Cubits high, and 13 broad, open at the top, and framed of rough and unpoliſhed Stones, without any Cement, Lime, and Mortar: ſome call this the Temple of the God *Terminus*, others, *Arthur's Oven*, and others, *Julius Hoff*, as ſuppoſing it to be raiſed by *Julius Cæſar*; but *Cambden* would rather believe it to be built by *Julius Agricola*, who fortified theſe parts, had not *Nintus* ſaid, it was built by *Carauſius*, as a Triumphal Arch in memory of ſome Victory. The chief places in this County are,

Stirling. *Stirling*, *Striveling*, or *Stirling-Borough*, a place of good ſtrength, and fortified with a powerful Caſtle, high mounted on the brow of a ſteep Rock; a place dignified with the birth of King *James* the Sixth of *Scotland*, and Firſt of *England*, who afterwards cauſed it to be beautified with new Buildings.

Falkirks, &c. *Falkirke*, *Cumirnald*, and *Torwood*.

MENTEITH, a County ſo called from the River *Teith*: Its chief places are,

Dunblain. Clackmannan. *Dunblain*, ſeated on the River *Teith*, being the See of a Biſhop; and *Clackmannan*.

Of a very fertil Soil. *FIFE*, a fertil County in Corn and Paſturage, hath *Pit-Coal*, and the *Sea* with its two Arms, *Forth* and *Tay*, which almoſt encompaſs it, affordeth ſtore of *Oyſters* and other Fiſh. Its chief places are,

St. Andrews. *St. Andrews*, of old, *Regimund*, that is, *St. Regulus Mount*, which *Ung* or *Oeng*, King of the *Picts*, gave to *God* and *St. Andrew*, that it ſhould be the chief and Mother Church of the *Picts* Kingdom. It is a City pleaſantly ſeated on the Sea-ſhoar near *Fif-neſs*, is fortified with a fair and ſtrong Caſtle, is dignified with an *Archiepiſcopal See*, which is Primate of all *Scotland*, and is alſo honoured by being the Seat of the *Muſes*.

Diſert. *Diſert*, ſeated on the riſing of a Hill, and in an open Heath ſo called, where there is a large place called the *Gode-plot*, that affordeth good ſtore of *Bitumen*.

Dunfirmling. *Dunfirmling*, a famous Monaſtery in old time, and of note as well for its Building, and being the Burial-place of King *Malcomb* the Third, as for giving Title to the Earl of *Dunfirmling*.

Falkland. *Falkland*, well, and pleaſantly ſeated for Hunting, for which purpoſe the Kings have had here their Retiring-houſe.

Cupre. *Cupre*, a *Borough-Town*, of ſome note.

STRA-

STRATHERNE, that is, the *Vale along the River Ern*, hath for its chief places,

Abergenny. *Abergenny*, once a City of good account, being the Royal Seat of the *Picts* Kings, which (as 'tis ſaid) *Nectane* their King dedicated to *God* and *St. Bridget*, with a Tract of ground thereto belonging.

Drimtin. *Drimein-Caſtle*, well ſeated on the River *Ern*.

Tulibardin. *Tulibardin-Caſtle*, ſcituate alſo on the ſame River.

ARGILE, a County well furniſhed with *Pools*, in which, together with the Sea, and its many Arms which it ſendeth forth, are taken great plenty of good Fiſh; and in its Mountains are bred a kind of *wild Deer*. Places of good account are none in this County.

LORNE, a Country of an apt Soil for bearing of *Barley*, is well watered, being divided by the large Lough or Lake called *Leane*. Its chief places are,

Dunſtafage. *Dunſtafage*, ſeated near the ſaid Lake, once dignified with a Houſe of the Kings.

Tarbar. *Tarbar*, where King *James* the Fourth ordained a *Juſtice* and a *Sheriff*, to adminiſter Juſtice to the Inhabitants of the out-Iſles: and

Bergonum. *Bergonum*.

This County ſeated near Ireland. Kiltan. Sandell. *CANTYRE*, that is, the *Lands-head*, as thruſting it ſelf forth with a long and tapered *Promontory*, which *Ptolomy* called the *Promontory Epidiorum*; between the extream point of which and *Marlock*, or *Tor-Bay* in *Ireland*, there are ſcarce 13 miles. Its chief places are *Kiltan* and *Sandell*.

Iſle of Arran. *ARRAN*, a ſmall County and Iſle near unto *Cantire*, hath for its chief places *Arran* and *Rothſay*.

The Highlanders. *ALBAINE*, or *BRAID-ALBIN*, whoſe Inhabitants are called the *Highlanders*; a kind of rude and warlike People, and much of the nature of the *Iriſh* in habit and diſpoſition. Its chief places are *Enverlothea* and *Foyre*.

Perth. *PERCH*, a large and fertil County, hath for its chief places,

Perch, or *St. John's Town*, a place of good account, and once larger than now it is, being built by King *William*; it is pleaſantly ſeated between two Greens, and on the River *Tau*, which is navigable for *Barges*.

Dunkelden. *Dunkelden*, dignified by King *David* with an *Epiſcopal See*, ſuppoſed to be a Town of the *Caledonians*.

Berch. Alſo on the *Tau* ſtood the little City of *Berch*, which was waſhed away by the overflowings of the ſaid River, together with many of its Inhabitants, amongſt which was an Infant-Child of the Kings in its Cradle.

Scone. *Scone*, ſeated on the farther ſide of the *Tau*, dignified with an Inauguration of the *Scotch* Kings before their Union to *England*, *Weſtminſter* now being the place; and where the Chair, in which the Kings were then Crowned, is, which is at preſent made uſe of upon the like occaſion.

Caladonia Wood. *ATHOL*, an indifferent fertil County, and well clothed with Wood, where is that large and overſhadowed Wood *Caladonia*, already treated of; a Country ſaid to be infamous for *Witches*. Its chief place is *Blaire*.

Very fertil and well watered. *ANGUIS*, a fertil County both for Corn and rich Paſtures, is well watered with ſeveral Rivers, which loſe themſelves in the Sea, which ſerveth for its Eaſtern bounds: It is interlaced with *Hills* and *Foreſts*, and garniſhed with divers *Forts* and *Caſtles*. Its chief places are,

Dundee. *Dundee*, ſeated on the Mouth of the River *Tay*; a noted and well reſorted Town for Trade, by reaſon of its commodious Port for Ships.

Brechin. *Brechin*, ſcituate on the River *South-Eske*, near its fall into the Sea, and dignified by King *David* the Firſt with an *Epiſcopal See*. Nigh unto this Town is *Red-head*, a place not unknown to Seamen.

Montroſs. *Montroſs*, of old *Celurca*, of ſome account for being honoured with the Title of an Earldom.

Arbroth. *Arbroth*, ſeated near the Sea; a Town endowed with large Revenues, and by King *William* dedicated to a Religious uſe, in honour of *Thomas* of *Canterbury*.

MERNIS,

Very fertil. *MERNIS*, or *MERNIA*, a ſmall, but plain and fertil Champain Country, which ſhooteth it ſelf forth on the *German Ocean*: Its chief places are,

Dinnotyr. *Dunnotyr*, defended by a ſtrong Caſtle, ſeated on an high and inacceſſible Rock, near the Sea.

Fordon. *Fordon*, ſeated alſo not far from the Sea.

BUQUIHAN, waſhed with the Sea, whoſe Waves did here caſt up a mighty Maſs of *Amber* of an ineſtimable value; it hath good Paſtures, moſt fit to feed *Sheep*, whoſe *Wool* is excellent; and its Rivers breed ſtore of *Salmons*, which are had at ſuch eaſie rates, that it is ſcarce worth the trouble of taking them. Its chief places are *Rotheniay* and *Stanes*.

Adjoyning to this Country lieth *Boena* and *Bamff*, a ſmall *Sheriffdom*; alſo *Ajuza*, a little Territory of no great note.

Marr. *MARR*, a long and narrow County, ſomewhat inclined to Mountains, but well watered with the *Done* or *Dee*, well ſtored with *Salmons*, and other Fiſh. Its chief places are,

Aberdene. *Aberdene*, ſeated on the Sea-ſhoar, at the Mouth of the *Done*, dignified with an *Epiſcopal See*, hath an *Hoſpital*, alſo a *Free-Grammar-School*, and is of note for taking of *Salmons*: and *Kildrumy*.

Kildrumy.

Murray. *MURRAT*, a pleaſant and fertil County, and the rather as watered with the *Spey*, *Findorne*, and the River and Lake *Neſſa*, which reacheth about 23 miles in length, the water whereof is obſerved to be ſo warm, that it never is found to freez; and this Lake is its Northern limits, as the *Spey* is its Eaſtern; all which empty themſelves in the Sea, where it formeth a Bay. Its chief places are,

Innernes. *Innernes*, *Bean-Caſtle*, which *Ptolomy* thinks to be *Banatia*; and here in *Anno* 1460. a Marble-Veſſel artificially engraven, full of *Roman* Coins, was found.

Narden. *Narden*, or *Narne*, an hereditary *Sheriffdom*; and here ſtood within a by-land a ſtrong Fortreſs of a great height, which was kept by the *Danes* againſt the *Scots*.

Innerlothea. Elgin. Rothes. *Innernes*, and *Innerlothea*, in former times two eminent Fortifications. Alſo *Elgin* and *Rothes*, places honoured with the Titles of *Earldoms*.

LOQUABREA, a County well ſtored with *Rivers* and *Lakes*, which empty themſelves into the Sea; it hath alſo good Paſtures, yet is it very Mountainous, and well clothed with Wood, and in the bowels of the Earth are Mines of *Iron*. Its chief place is,

Iron-Mines.

Innerlothey. *Innerlothey*, once of good account, being well frequented and traded unto; but through the Pyracies and Wars of the *Danes* and *Norwegians*, who razed it, it hath now ſcarce any Remain left.

Its fertility. *ROSS*, a large, Mountainous, and Woody County, which reacheth from one Sea to the other; hath great plenty of *Stags*, *Deer*, *Wild-fowl*, and *Fiſh*. Its chief places are,

Cromarty. Neſs-mouth. Lovet. Ardmanoch. *Cromarty*, or the *Haven of Safety*, as having ſo ſecure and capacious an Harbour for Ships. *Neſs-mouth* and *Lovet*.

In this County is the Territory of *Ardmanoch*, very Mountainous, from which the ſecond Sons of the Kings of *Scotland* bear their Title.

SUTHERLAND, regarding the Sea, is well watered with Rivers, beſides the large Lough or Lake *Shyn*, almoſt in the midſt of the Country; Weſtwards of which are great ſtore of Hills, from which is dug excellent *white Marble*, very good for curious Works. It is a Country more fit for breeding of Cattle, than for Tillage; and hath for its chief places *Dunrobin* and *Dorno*.

Dunrobin. Dorno.

Very cold and barren. *STRATHNAVERNE*, a County far engaged Northwards, which with *Cathanes* have the utmoſt Northern Coaſt of all *Britain*. which muſt occaſion it to be of a very cold temperature; it is very much inclined to ſterility, is Mountainous, and but ill inhabited. Its chief places are *Strabubaſter* and *Tounge*.

Strabubaſter. Tounge.

CATHA-

CATHANES, a County waſhed with the *Eaſtern Ocean*, where it formeth ſeveral Creeks, and is well watered with Rivers, which afford good ſtore of Fiſh, from which, and by the graſing and feeding of Cattle, the Inhabitants get the greateſt part of their livelyhood. Its chief places are,

Dornock, a mean place, yet the See of a Biſhop. *Dornock.*

Catnes, a Maritim Town, dignified with an *Earldom*. Nigh unto this Town Southwards is *Neſs-head*, and Northwards *Dunesbe-head*, both Maritim places: and *Girnego*. *Catnes.* *Girnego.*

In this Tract are three Promontories, to wit, *Urdehead*, of old *Berubium*; *Dunsby* or *Dunſcanby*, of old *Virvedrum*; and *Howbum*, of old *Orcas*. Three Mountains.

There are ſeveral *Iſles* diſperſed about this Kingdom of *Scotland*, as the *Orcades*, *Shetland*, and *Hebrides*, which may properly be ſaid to belong thereunto; but as to the deſcription thereof, they ſhall be treated of amongſt the other ſmall Iſles belonging in general to great *Britain*, after we have treated of the Kingdom of *Ireland*.

IRELAND.

IRELAND, environed on all ſides by the *Sea*, and next to *Great Britain* may claim priority of all others in *Europe*: It is a Country generally of a fertil Soil, and plentifully ſtored with *Cattle*, *Fowl*, and *Fiſh*; but is Mountainous, Woody, Wateriſh, and full of unprofitable *Loughs* or *Bogs*, which oft-times prove dangerous (eſpecially to New-comers) and occaſion *Rheums* and *Fluxes*, for the cure of which they drink a ſort of hot Water, called *Uskebah*. Its ſcituation. Fertility.

It is bleſt with a mild and healthful Air, its Summer being not ſo hot, nor its Winter ſo cold as in *England*, but more inclined to ſoggy Miſts and Rains, which makes it more unfit for Tillage than Paſturage; the Clime being not very favourable for ripening of *Corn* or *Fruits*, but beareth ſuch great abundance of long and ſweet Graſs, that the Cattle (which are the Inhabitants chiefeſt wealth) are ſoon fat, and fit for ſlaughter therewith: And it is further obſerved, That the Air is ſo pure, that it neither breedeth nor ſuffereth any venemous *Beaſt*, *Serpent*, or *Inſect*, being brought out of other Countries, long to retain their life. Its Air and Temperature.

Many have been the Names (according to Tradition) that this Iſland hath been known by; *Orphæus*, *Ariſtotle*, and *Claudian*, named it *Jerna*: *Juvenal* and *Mela*, *Iverna*, or *Hibernia*; *Diodorus Siculus*, *Iris*; *Euſtachius*, *Oyernia* and *Bernia*; the *Britains*, *Iuerdon*; the Natives, *Eryn*; and the *Engliſh*, *Ireland*. Its Names.

Some there be that will have it called *Hibernia*, from *Hyberno tempore*, that is, from its *Winter ſeaſon*; others, from *Hiberus* a *Spaniard*; and others, from the ancient River *Iberus*; whilſt ſome ſtrive to have it ſo called from the *Iriſh* word *Hiere*, which ſignifieth *Weſt*, or *Weſtern Coaſt*, whence *Eryn* may ſeem to fetch its derivation. *Feſtus Avienus* calleth this Iſland, *Sacram Inſulam*, the *Holy Iſland*; for that the People are ſoon drawn thereunto, witneſs the many *Saints* that it hath produced. Why ſo called.

If you will take for truth what the *Iriſh* Hiſtorians report, this Iſland hath been exceeding long inhabited; for, according to *Cambden*, 'tis ſaid that it was poſſeſſed by *Cæſarea*, Niece to *Noah*, before the Floud; that *Bartholanus* a *Scythian* arrived here near 300 years before the Deluge; that many years after *Nemethus*, with his four Sons, arrived here, but was ſoon forced hence by the Giant-like ſort of People of the *Nimrods* Race here inhabiting; that after this *Ireland* long ago inhabited.

this the Five *Grecians* seized this Island; and that soon after (being about the time of the *Israelites* departure out of *Ægypt*) *Gaothel*, with his Wife *Scota*, Daughter to *Pharaoh* King of *Ægypt*, landed here, and called the Iland *Scotia*, from his Wifes name. And further, the *British* History saith, that some Ages after *Hiberius*, *Hermion*, *Euer*, and *Erimon*, Sons of *Milesius* King of *Spain*, by permission of *Gurguntius* the *British* King, here planted Colonies after that the Country had been wasted by a Pestilence, and from the eldest Son was called *Hibernia*. Nor is it much to be doubted, but that the *Britains* setled themselves here, seeing there is so great affinity betwixt them and the *Irish* in their natures, dispositions, and speech.

Its Extent, Situation. This Island contains in length about 240 miles, and in breadth about 120; 'tis scituate under the 10*th* and 12*th* *Climates*, the longest day making about 16 hours. It is a near Neighbour to *Scotland*, from which it is separated by an *Isthmus* of about seven miles; but *England* far more remote, being from *Dublin*, its Metropolitan City, to *Holy-land* in the Isle of *Anglesey* (the usual place for taking of Landing) about 50.

Its strength. It is an Island of great strength, as well by Nature as Art, by reason of its scituation in such Tempestuous and dangerous Seas, and the several Fortifications and Castles that the *English* have built since they became Masters thereof.

Its chief Rivers. It is a Country well watered, having several great Rivers, the chief amongst which are those of *Shannon*, being about 60 miles navigable, and after its course of about 200 miles, looseth it self into the Western Ocean. *Liff*, *Showre*, *Awidaff*, *Slanie*, *Stone*, &c. And besides these Rivers there are several *Lakes* or *Loughs*, amongst which that of most note is *Lough-Erne*, about 30 miles in length, and 15 in breadth, in which are several small *Isles*.

Its Commodities. The Commodities that this Island affordeth, are, great abundance of *Cattle*, *Hides*, *Tallow*, *Cheese*, *Wool*, of which they make *course-Cloth*, *Freezes*, *Rugs*, *Mantles*, &c. also *Furs*, *Pipe-Staves*, *Salt*, *Hemp*, *Linnen-Cloth*, *Hony*, and *Wax*; and its Seas likewise afford great plenty of *Cod-fish*, *Herrings*, *Pilchards*, *Oysters*, &c.

Its Inhabitants. Its Native Inhabitants were extreamly rude and barbarous; they made use of Women in common, without any difference of other mens Wives; they were very bold, couragious, and greedy of honour, constant in love, impatient of Injuries, of an easie belief, much addicted to phantastical conceits, as holding it ominous to give their Neighbours Fire on a *May-day*, with many the like Fooleries; they are much inclined to superstitious Idolatry, as worshipping the *Moon*, after her change; about their Childrens Necks they hung the beginning of St. *Johns* Gospel, a piece of *Wolves-skin*, or a crooked Nail of a *Horse-shoe*, which they thought preserved them from danger; the Hoofs of dead *Horses* they held Sacred; with many such like ridiculous Fancies. They accounted *Ease* and *Idleness* their greatest Liberty and Riches, not coveting Worldly possessions, contenting themselves with mean Cottages, Hovels, or Cabins; nor were they profuse in their Apparel or Diet, being well satisfied if they had wherewith to keep them warm, and to fill their Bellies, their chief food being *Herbs*, *Roots*, *Butter*, *Milk*, *Oatmeal*, and the like. For their dying, they hired Women to Mourn, who expostulated *why they would die*, telling them, that *they had such and such things*; and the Corps were accompanied to the Grave with howlings, clapping of hands, and such like sorrowful actions. But many of these ridiculous and absurd Customs, since the *English* are setled amongst them, are forgotten.

The Christian Faith first planted by St. *Patrick*. The *Christian Faith* was here first planted by St. *Patrick*; this *Patrick* (according to Writers) was the Son of *Calphurus*, by St. *Martins* Sister, and born at *Glasco* in *Scotland*, who in his Youth was taken Captive by the *Irish* Pirates, and sold for six years as a Slave in the meanest condition to *Macbuain*; yet in this dejected condition he much desired the Conversion of this Nation, from their extream Idolatrous ways to the true serving of the living God, insomuch that he dreamed, that *the unborn Babes cried unto him for Baptism*; and being at length redeemed from his bondage, by a piece of Gold, which he found

found in the Field, (that was rooted up by some *Swine*) he left the Isle; but still having his thoughts on these People, in his Aged years he again returned, (and in better state than before) preached the Gospel, converted the People, became Bishop of *Armagh*; and when dead, was received or canonized as their *Saint*.

The *English* become Masters of *Ireland*. These *Irish*, having civil dissentions amongst them, prompted the *English* in the Reign of K. *Henry* the Second, to attempt the Conquest of this Kingdom, who in *Anno Dom.* 1172. landed his Army there, and obtained the Regal Dominion thereof, which being passed over unto him by their Nobles and Commonalty, their Charter so signed, was transmitted to *Rome*, and was confirmed by a Patent of Pope *Hadrian*, by a Ring delivered unto him in token of his investure; and was farther confirmed by the Authority of certain *Provincial Synods*: and ever since that time it hath remained in the possessions of the Kings of *England*.

The Temporal Government of *Ireland*. The *Temporal Government*, since the *English* became Masters thereof, hath most commonly been, by one Supream Officer, sent over by the Kings of *England*, and called *Lord Deputy*, or *Lord Lieutenant*, who for Majesty, State, and Power, is not inferiour to any *Vice-Roy* in Christendom; living in great grandure, and having ample and Royal Power and Authority granted unto him; and as Assistant unto him in so weighty a concern, he hath his *Privy Council*, being a select number of honourable and prudent persons chosen out of the *Nobility*, *Clergy*, and *Capital Officers* of State: for their Degrees of Honour, and Offices of State, they are the same with those of *England*, already treated of. The present *Lord Lieutenant* is the Right Noble his Excellency *Arthur Capell*, Earl of *Essex*, Viscount *Maldon*, Baron *Capell* of *Hadham*, &c.

Its Laws and Courts of Judicature. The *Laws* of this Kingdom have correspondency with those of *England*, and have likewise there several *Courts of Judicature*; as the *Chancery*, *Common-Pleas*, *Kings-Bench*, *Exchequer*, &c. but above all the High Court of *Parliament*. There are likewise in each County *Justices* of the *Peace*, for the quiet governing and well ordering the Inhabitants, as in *England*.

The Archbishops and Bishops. As to the *Ecclesiastical Government* of this Kingdom, it is committed to the care of four *Archbishops*, under whom are divers *Suffragan Bishops*, whose names are as followeth. Under the Archbishop of *Armagh*, who is Primate of *Ireland*, are the Bishops of *Meath*, or *Elnamirand*, *Conuer*, *Rathluc*, *Dune*, or *Dundalethglas*, *Ardachad*, *Derry*, *Dal-Liquir*, *Chlocor*, or *Lugundum*, and *Rathbot*. Under the Archbishop of *Dublin*, those of *Ferne*, *Lechlin*, *Glendalach*, *Ossery*, and *Kildare*. Under the Archbishop of *Cassile*, those of *Limrick*, *Waterford*, *Corke*, *Laonie*, or *Kendalnan*, *Cellumabrath*, *Lismore*, *Ardefret*, the Isle of *Gathay*, *Clon*, *Da-Rosalither*, *Melite*, or *Emilech*, and *Rosse* or *Roscree*. And under the Archbishop of *Tuam*, those of *Elphin*, *Conany*, *Clonfred*, *Enachdun*, *Achad*, *Duac*, or *Killmacduoc*, *Mage*, *Killmundach*, *Callain*, *Roscomon*, and *Lade*, or *Kilaleth*.

According to the *Temporal Government* of this Kingdom, it is severed into four Provinces, to wit, *Leimster*, *Ulster*, *Connaugh*, and *Mounster*, which are again subdivided into several Counties, which comprehend several *Baronies*, in which are seated several *Towns*: And of these Provinces in order.

LEIMSTER.

Its fertility. THis Part of *Ireland* (for the generality) is of a fertil Soil, affording great plenty of *Corn*, *Cattle*, *Fowl*, and *Fish*, enjoyeth a wholsom and temperate Air, is well watered with Rivers, the chief amongst which are the *Shour*, *Neor*, and *Barrow*, which have their rise out of that great Mountain called by *Giraldus*, *Bladine Monies*: It is very well inhabited, as well by the Gentry as the Commonalty, and the rather by reason of *Dublin*, the Metropolitan City of this Kingdom therein seated. Its form may be said to be triangular, for from South-east to the West-point, is above 80 miles; from

Its Rivers.

thence to the North-west, about 70; and her East-Coast, about 18; the circumference making about 270 miles. And for its bounds, it hath on the West the Province of *Connaugh*; on the North, that of *Leimster*; and on the East and South, the *Sea* which regards *England*, from which (that is, from *Holyhead* in the Isle of *Angleſey*) it is distant about 50 miles: a *Sea* very dangerous for Saylers, by reason of the *Flats* and *Shallows* that lie over against *Holypoint*, which are called the *Grounds*. And as to its division, it is severed into ten Counties, to wit, *Dublin*, *East-Meath*, *West-Meath*, *Longford*, *Kildare*, *Kings County*, *Queens County*, *Caterlough*, *Weixford*, and *Kilkenny*; all which are again subdivided into several *Baronies*; and of these Counties in order.

County of *Dublin* described.

DUBLIN, or *Divelin*, a fertil County for *Corn* and *Cattle*, but ill provided with *Wood*, which defect is supplied by *Peat* or *Turff*, dug up in the clammy places, as also by *Sea-Coal* brought from *England*. It is severed into seven *Baronies*, viz. *New-Caſtle*, *Upper-Croſs*, *Rath-down*, *Caſtle-knock*, *Coolock*, *Balrudery*, and *Nether-Croſs*; and by reason of its City *Dublin*, the Metropolis of *Ireland*, is very well furniſhed with Towns, and inhabited by Gentry. Its chief places are,

Dublin.

Dublin, the capital City in the Island, by *Ptolomy* called *Eblana*, by the Latinists, *Dublinium*, and *Dublinia*; by the West-*Britains*, *Dinas Dulin*; and by the *Iriſh*, *Balacleigh*, that is, *the Town upon Hurdles*, by reason that when it began to be first built (the ground being wet and mooriſh) the Foundation of its Houſes were laid upon *Hurdles*. It is a City of great Antiquity, and said to be built by *Harold* the first King of *Norway*, who brought most of the Kingdom under his obedience, though not without great Spoils; and after the Conquest of the *Engliſh*, was Peopled by a Colony of *Briſtol-men*. It is no less pleasantly than commodiously seated on the River *Liffie*, (which after a small course emptieth it self into a capacious Bay of the Sea, where it hath a good Haven) and a fair prospect; and on the South it hath delightful Hills, which, with the several *Parks* here adjacent, afford great Recreation to the Gentry. It is a City dignified and enriched with the residence of the Lord *Lieutenant*, as also with the See of an *Archbiſhop*, with an *Univerſity*, and the Courts of *Judicature*, by reason of which it is a place of good Traffick, being well inhabited and frequented by *Nobility* and *Gentry*, as also by abundance of wealthy *Merchants* and *Shop-keepers*. It is beautified with many fair Buildings, both publik and private, the principal amongst which are the Lord *Lieutenants Palace*, a stately Structure, built by order of King *Henry* the Second, in the East-Suburbs; then the *Cathedral Church*, dedicated to St. *Patrick*, consisting of a *Dean*, *Chanter*, *Chancellor*, *Treasurer*, two *Arch-Deacons*, and twenty *Prebendaries*: Nigh unto which is the *Archbiſhops Palace*, both which are without the City in the Suburbs called St. *Patricks*: Then the *Collegiate Church* consecrated to the *Holy Trinity*, commonly called *Chriſt-Church*, seated in the midst of the City, which Queen *Elizabeth* dignified with the Priviledges of an *Univerſity*; and not far from this is the *Town-Hall*, called *Toles-tale*, a fair Stone-building of a quadrangular form; and here the *Lord Major*, *Sheriffs*, *Aldermen*, and other the Magistrates of the City assemble together for the management and consulting on the publick Concerns of the City; as, to hear Causes, hold Sessions, &c. Then a beautiful *Colledge*, with several other fair Edifices. It is at present a City of a large Extent to what it formerly was, and doth daily increase in its Buildings, especially in its Suburbs, which is severed from the City by a *Wall*, which gives entrance by six *Gates*. As touching the Trade of this Kingdom, I shall include it under this City, as being the chief place of Traffick. The Commodities exported are the product of the Country already treated of; and those imported are all sorts of *Engliſh* Commodities, especially *Apparel*, *Silks*, *Stuffs*, &c. also *Wines*, *Oils*, and several other Commodities. Their *Coins*, as being under the Jurisdiction of *England*, have correspondency therewith, and are here current, as also those of *Spain*; and an *Iriſh* Pound, which consisteth of 20 *s.* is but 13 *s.* 4 *d. ſterling*, which makes their Shilling but 8 *d. ſterling*. And as to their *Weights* and *Meaſures*, they are the same with those of *England*, where see further.

Wickle,

Wickle, seated on the *Sea*, where over the narrow Haven there standeth a Rock, enclosed with a strong *Wall* instead of a *Caſtle*, and serveth for a place of defence. *Wickle.*

New-Caſtle, a Town which regardeth the *Sea*, where there are Shelves of *Sand* (which they call the *Grounds*) reaching a great length, between which and the Shoar is said to be about seven Fathom water. *Newcaſtle.*

Houth, seated on the River *Liffy*, at its fall into the Sea, which almost encloseth it. *Houth.*

Malcheal, also seated on the Sea, nigh unto which is a small Isle called *Lambey*. *Malcheal.*

EAST-MEATH, a County watered with the noble River *Boyn*, which cutteth the Country into two parts, and after it hath received the Waters of *Lough-Ranmore*, discharageth it self into the Sea. It is severed into twelve *Baronies*, viz. *Moyfenragh*, *Dunboyne*, *Ratoth*, *Duleeke*, *Kells*, *Morgallon*, *Skreen*, *Navan*, *Lune*, *Slane*, *Foore*, and *Decce*: And hath for its chief places, County of *Eaſt-Meath* described.

Trim, seated on the River *Boyne*, a Town of good account and Trade. *Trim.*

Aboy, a well inhabited and frequented Town. *Aboy.*

Navan, *Drodagh*, and *Slane*, which also hath a Barony. *Navan.* *Drodagh.* *Slant.*

WEST-MEATH, so called as lying Westwards, as the other is for lying Eastwards. It is divided into twelve *Baronies*, viz. *Farbill*, *Moyeaſhell*, *Clunlonan*, *Brawney*, *Moygoiſh*, *Delvin*, *Corkery*, *Demyfoore*, *Maheredernon*, *Rathconrath*, *Kilkenny-weſt*, and *Fartullagh*: And hath for its chief places, County of *weſt-Meath* described.

Molingar, the chief Shire-Town, as being commodiously seated in the midst of the County. *Molingar.*

Delvin, seated on the Summit of a Hill, a Town dignified with a *Barony*: And *Kelskery*. *Delvin.* *Kelskery.*

LONGFORD, a County almost encompaſſed with Lakes and Rivers; amongst which is the *Shannon*, the noblest River in the Kingdom. It is severed into six *Baronies*, viz. *Ardagh*, *Granard*, *Moydow*, *Longford*, *Rathline*, and *Abbyſhrewle*: And hath for its chief places, County of *Longford* described.

Longford, which gives name to the County, seated on the Lake *Eske*, or rather on the *Shannon*. *Ardragh*, another good Town. *Longford.* *Ardragh.*

KILDARE, a rich and fertil County, severed into ten *Baronies*, viz. *Salt*, *Naſs*, *Ikeathy*, or *Oughtereney*, *Claine*, *Connel Magna*, *Carbury*, *Ophaly*, *Noragh* and *Rabane*, *Kilkullen* half, *Kilcah* and *Moon*: Whose chief places are, County of *Kildare* described.

Kildare, a fair Inland Town, being well frequented, defended by a *Caſtle*, and dignified with the See of a *Biſhop*: A place much celebrated in the Infancy of the *Iriſh* Church for its St. *Brigid* an holy Virgin, who was the Disciple of St. *Patrick*. *Kildare.*

Mainoth, defended by a *Caſtle*, and is a place of good account, and well frequented. *Mainoth.*

Naas and *Athie*, seated on the River *Barrow*, both Towns of some account. *Naas.* *Athie.*

KINGS COUNTY, so called in honour to *Philip* King of *Spain*, Husband to *Mary* Queen of *England*. It is divided into ten *Baronies*, viz. *Cooles-Town*, *Philips-Town*, *Marrius-Town*, *Ballicowen*, *Kilcourſey*, *Balliboy*, *Clonliske*, *Garricaſtle*, *Ballibritt*, and *Fercale*: And hath for its chief places, Kings County described.

Philips-Town, or *Kings-Town*. *Philips-Town.*

QUEENS COUNTY, full of Boggs and Woods, is divided into eight *Baronies*, viz. *Balliadams*, *Upper-Oſſery*, *Portnehinch*, *Tenehinch*, *Cullinagh*, *Mary-burrough*, *Slewmargigh*, and *Stradbally*: And hath for its chief places, Queens-Town described.

Queens-Town, a place of good account, and is the chief in the County. *Queens-Town.*

Rheban, once a City, but at present of small note. *Rheban.*

County of Caterlough described.

CATERLOUGH, a fertil County, and well clothed with *Wood*. It is severed into five *Baronies*, viz. *Ravilly*, *Caterlough*, *Forth*, *Idronye*, and St. *Mullin* in part: And hath for its chief places,

Caterlough. Leighlin.

Caterlough, seated on the River *Barrow*, of good account and strength.

Leighlin, also seated on the *Barrow*, once dignified with an *Episcopal See*.

Tullo. Carickbrak, Areklo.

Tullo, seated on the River *Slane*.

Carickbrak and *Areklo*, which two last are seated on the Sea.

County of Wexford described.

WEXFORD, or *WEISFORD*, washed by the Sea; a County in former time (according to *Ptolomy*) possessed by the *Menapians*, a sort of People which came out of *Low-Germany*. It is divided into eight *Baronies*, *viz. Gory*, *Scarwalsh*, *Ballagheene*, *Bantry*, *Shellmaleere*, *Forth*, *Bargy*, and *Sheelburne*. And hath for its chief places,

Wexford.

Wexford, supposed to be the ancient City *Menapa*, scituate at the Mouth of the River *Slane*, where it hath a good Haven; a fair Town, and of note for being the first Town that imbraced a Colony of *English*, as also for its *Herring-fishing*; which makes it to be well inhabited and frequented.

Ross.

Ross, seated on the River *Barrow*, which after a small course falleth into a Bay or Arm of the Sea.

Ternes.

Ternes, scituate on the *Slane*, dignified with the See of a *Bishop*, and was in former time fortified with a *Castle*.

Eniscort.

Eniscort, a *Borough* and *Town Corporate*.

County of Kilkenny described.

KILKENNY, a very fertil County, well graced with Towns, is divided into ten *Baronies*, viz. *Gowran*, *Fassaghdining*, *Kilkenny*, *Cranagh*, *Galmey*, *Callen*, *Iverke*, *Sheelelogher*, *Kells*, *Knocktopher*, *Ida-Igrin*, and *Ibercon*. And hath for its chief places,

Kilkenny.

Kilkenny, seated on the River *Nur*, which traverseth the County; a fair and wealthy *Borough-Town*, far exceeding all other Mid-land *Borough-Towns* in the Kingdom. It is divided into the *English* and the *Irish* Town, that part belonging to the *English* being fenced on the West-side by a *Wall*, and defended by a *Castle*; and that part which belongeth to the *Irish*, (being as it were the *Suburbs*) is of the greatest Antiquity, having in it the *Canicks Church*, and is honoured with the See of the Bishop of *Ossery*.

Thomas Town. Callan.

Thomas Town, seated beneath the River *Nur*, a small *walled Town*.

Callan, seated on a River so called, a *Borough* and *Town Corporate*.

Religious Houses.

Amongst the places in this Province set apart for Divine Worship, these following were of great note, *viz.* the stately *Abbey* called *Thomas Court* at *Dublin*, built by King *Henry* the Second, in expiation of the Murther of *Thomas* Archbishop of *Canterbury*; the *Monasteries* of St. *Maries*, of *Ousmanby* and *Tintern*; and the *Abbey* founded by *William Marshall* Earl of *Pembroke*, to the praise of God, for his safe delivery out of a desperate Storm and Shipwrack, which he was in.

ULSTER.

ULSTER.

Its temperature of Soil.

THis Province is of a large Extent, and of a different Soil, some places being very fertil, and others as barren, which would be otherwise if it were well manured; but generally it is inclined to fertility: It hath many thick and shady *Woods*, as also divers large *Lakes*, in which are several small *Isles*; which said *Lakes* or *Loughs*, as also the *Rivers* which water the Province, plentifully furnish the Inhabitants with *Salmons*, and other good Fish: and for *Flesh*, *Fowl*, and *Corn*, they have more than they can well spend. This Province by the *Welsh-Britains* is called *Ulw*, and by the *Irish*, *Cui Guilly*.

Its Lakes and Rivers.

Its Name.

Its Bounds.

It is bounded on the South with the Provinces of *Leinster* and *Connaugh*, and on all other parts is washed with the Sea, which receiveth the Waters of those many *Loughs* or *Lakes*, many of which are of a large extent, and have within them several small *Isles*, the names of some are as followeth, *Lough-Neaugh*, *Lough-Foylle*, *Lough-Swillie*, *Lough-Earne*, and *Lough-Cone*.

Its Extent.

It is of a large Extent, reaching from *Black-Abbey* in the East to *Calebegh-Point* in the West, about 130 miles; and from *Coldagh-Haven* in the North to *Kilmore* in the South, about 100; and in circumference about 420 miles.

Division.

This Province is divided into Ten Counties, *viz. Tir-conell* or *Dunagall*, *Tyroen*, *Colrane*, *Antrim*, *Downe*, *Louth*, *Armagh*, *Monoghan*, *Cavan*, and *Fermanagh*; all which are again severed into divers *Baronies*: And of these Counties in order.

County of Tir-conel described.

TIR-CONEL, or *DUNAGAL*, a Champain Country, and well watered with *Rivers* and *Loughs*, which discharge themselves into the Sea, which washeth its Southern, Western, and Northern parts, and affords to the Inhabitants great plenty of *Fish* and *River-Fowl*. It is divided into five *Baronies*, *viz. Tirhugh*, *Boylagh*, *Kilmacreanan*, *Raphoe*, and *Enishowen*: And hath for its chief places,

Derry.

Derry, or *London-Derry*, a Colony of the Citizens of *London*; a fair and well built Town, where sometime stood a flourishing Monastery.

Dunegall.

Dunegall, which gives name to the County, seated on a Bay of the Sea, where it hath a good Haven, and between the Mouth of *Lough-Earne* and *Balewilly-Bay*.

Calebeck.

Calebeck, scituate on the Sea, where it hath a commodious *Haven*, and *Robogh*.

Several Isles and Promontories along the Coast.

Along the Coast of this County are seated several small *Isles*, viz. *Torr-Isle*, the *Isles* of *Cladagh*, *North-Aran*, &c. also the *Promontories* of *Fair-foreland*, *Rams-head*, and *St. Hellens-head*: And in this County is *St. Patricks Purgatory*, a Vault or narrow Cave in the ground, of which strange Fancies are believed by the simple sort of the *Irish*.

St. Patricks Purgatory.

County of Tyroen described.

TYROEN, a large, rough, and rugged, yet fertil County, which is divided by the Mountains of *Sliew-Gallen* into the Upper and the Lower, in both which are three Baronies, *viz. Omagh*, *Strabane*, and *Dungannon*: And hath for its chief places,

Cloghar.

Cloghar, dignified with the See of a *Bishop*.

Dungannon.

Dungannon, the ancient residence of the *O-neals*.

Strebane. Charlemont.

Strebane, and *Charlemont*. In this County is the large Lake *Neaugh*, well stored with Fish, in which are several small *Isles*; the chief amongst which are *Enis-Garden*, and *Sidney-Isle*.

County of Colerane described.

COLERANE, a small County, seated in the most Northern part of the Province, and washed with the Sea, as also with the large Lake *Foylle*, adjoyning to the Sea on its Western part, and watered with the River *Band* on its Eastern, which carrieth a proud stream into the Sea from the Lake *Neaugh*, which breedeth great store of excellent *Salmons*. The chief places in this County are,

Colerane,

Colerant. Banchor, Kilrough. County of Antrim described.

Colerane, which gives name to the County, seated on the River *Band*.
Banchor, and *Kilrough*.

ANTRIM, the neareſt County to *Scotland*, from which it is not far diſtant, being almoſt encircled with Waters, having on the Weſt the River *Band*, on the South the large Lough *Neaugh* and *Knockvergus-Bay*, and on all other parts the *Sea*, where along the Shoar are ſeveral very ſmall *Iſles*, except it be one, to wit, the *Raglins*, which is indifferent large. This County is ſevered into eight *Baronies*, viz. *Toome*, *Antrim*, *Killconway*, *Maſſereene*, *Bellfaſt*, *Dunluce*, *Glenarne*, and *Carie*: And hath for its chief places,

Knock-fergus.

Knock-fergus, by the *Iriſh*, *Carick-vergus*, that is, the Rock of *Fergus*, ſeated on a large Bay ſo called, where it hath a commodious Port. It is a place of good ſtrength, is well inhabited, and better frequented than other places on this Coaſt; and at the Mouth of this Bay lie ſeveral Iſles. Not far from this place once ſtood the famous Monaſtery of *Magio*, ſo much commended by *Bede*.

Antrim. Glaſtalagnt.

Antrim, ſeated on a ſmall River, at its influx into the Lake *Neaugh*.
Glaſtalagne, ſcituate on the *Band*.

County of Down deſcribed.

DOWNE, a large and fertil County, waſhed on the Eaſt with the *Sea*, where it thruſteth it ſelf forth with a large Creek or Arm into the Lough *Cone*, which extendeth it ſelf in length many miles, and formeth two By-lands; That Southwards called *Lecall*, which is exceeding fertil, and whoſe extream point is called St. *Johns Foreland*; and That Northwards called *Ardes*: It is ſevered into five *Baronies*, viz. *Kinalearty*, *Lower Evagh*, *Ards*, *Upper Evagh*, and *Lecale*: And hath for its chief places,

Downt.

Downe, of old *Dunum*, ſeated in the part called *Lecall*, near the Lough *Cone*; a Town of good Antiquity, and dignified with an *Epiſcopal See*, as alſo with the Tombs of St. *Patrick*, St. *Bridget*, and St. *Columbe*.

Newry. Stranford.

Newry, ſeated on a River which falleth into *Carlingford-haven*.
Stranford, ſeated on the large River *Coyn*, or rather an Arm of the Sea, where it hath a ſafe Harbour.

Arglas. Conner. Kilwarny. County of Louth deſcribed.

Arglas, where (as 'tis ſaid) St. *Patrick* founded a Church.
Conner, or *Conereth*; an Epiſcopal See.
Kilwarny, much anoyed with Bogs, and full of ſhady Woods.
LOUTH, a County of a fertil Soil, very grateful to the Husbandman, and is waſhed on the Eaſt with the *Sea*. It is divided into four *Baronies*, viz. *Lough*, *Dundalke*, *Ferrard*, and *Atherdee*: And hath for its chief places,

Tredaugh.

Tredaugh, or *Droughdagh*, ſeated near the Mouth of the *Boyne*, which divideth it, but joyned together by a Bridge; and by reaſon of its commodious Haven it is a good Town, being well inhabited and frequented, nigh unto which ſtood *Mellifont Abbey*, founded by *Donald* a K. of *Uriel*.

Dundalke.

Dundalke, ſeated on the *Sea*, where it hath a commodious Haven, and in former times was ſtrengthned with a *Caſtle*, which with the *Town* was burnt by *Edward Brus*, Brother to the King of *Scots*; who proclaimed himſelf King of *Ireland*; but for this good act, was ſoon after (with above 8000 of his Men) ſlain; not far diſtant.

Carlingford. Lough. Ardeth. County of Armagh deſcribed.

Carlingford, another good and well frequented *Port-Town*.
Lough, a fair Town, conveniently ſeated on the River *Warren*.
Ardeth, a good Inland dry Town.
ARMAGH, a County of an exceeding fertil Soil, and not inferiour to any in the Kingdom. It is ſevered into five *Baronies*, viz. *Fowes*, *Orrior*, *Tawrane*, *Onelan*, and *Armagh*: And hath for its chief places,

Armagh.

Armagh, ſeated on (or near) the River *Kaiſin*, an ancient (but ruinated) City, yet dignified with the See of an *Archbiſhop*, who is Primate of all *Ireland*; which name it is ſaid to receive from Queen *Armacha*; and is ſuppoſed to be the ſame which *Ptolomy* calleth *Dearmach*. And here (according to St. *Bernard*) St. *Patrick* the Apoſtle of the *Iriſh* ruled, during his life, and when he departed this World, was here Interr'd; in honour of whom it was a place greatly reverenced.

Not

Not far from *Armagh* is *Owen Maugh*, the ancient Seat of the Kings of *Ulſter*; and on the River *Blackwater* are two Forts, one which beareth the ſame name, and the other called *Fort Charles*. Owen-Maugh.

Mount Norris, another Fort: And *Dornous*. Mount Norris. Dornous.

MONOGHAN, a County very hilly, and well clothed with *Wood*, is ſevered into four *Baronies*, viz. *Monoghan*, *Trough*, *Bartrey*, and *Cremorne*: And hath for its chief places, County of Monoghan deſcribed.

Clogher, ſeated on the River *Blackwater*. Clogher.

Monoghan, a large Fort; *Churchland*, and *Liſhanahan*. Monoghan.

CAVAN, a ſmall County, and of leſs account, yet is divided into ſeven *Baronies*, viz. *Clonehy*, *Tullogbgarvy*, *Caſterahan*, *Clonmoghan*, *Tullahagh*, *Tullahonoho*, and *Loughtee*. And hath for its chief places, County of Cavan deſcribed.

Cavan, and *Kilmore*, the one ſeated on the Lake *Cane*, the other on the Lake *Nivity*, both which are joyned to the Lake *Earne*, by the River *Blackwater*. Cavan, and Kilmore.

FERMANAGH, a County well clothed with *Wood*, and very boggy in the midſt, having ſeveral *Lakes* or *Loughs*, the chief amongſt which is that of *Earne*, which is the largeſt and moſt famous in all the Kingdom, having therein ſeated divers ſmall Iſles; and in this *Lough* are ſuch great ſtore of *Salmons*, *Trouts*, and other Fiſh, that they are oft-times found troubleſom to the Fiſhermen, by breaking their Nets. This County is ſevered into three *Baronies*, viz. *Maghereſtrephana*, *Maghereboy*, and *Clanawly*. And hath for its chief places, County of Fermanagh deſcribed.

Bal-Tarbet, ſeated on the ſame Lake. Bal-tarbet.

Inis Killing, the principal Fort in this Tract, which in *Anno* 1593. was defended by the Rebels, but taken from them by the valiant Captain *Dowdall*: and near unto this place is a great downfal of water, called the *Salmon-leap*. Inis Killing.

CONNAUGH.

THis Province, called by the *Iriſh Conaughty*, is full of *Woods* and *Bogs*, yet not unfertil, nor wanting in Proviſions. In this Province, at *Knock-toe*, that is, the *Hill of Axes*, the greateſt rabble of Rebels that ever were ſeen together in the Kingdom, were gathered together, and commanded by *William Burk O-Brien*, *O-Carrol*, and *Mac-nemare*, grand Rebels in that time, but were diſcomfited by the noble Valour of *Girald Fitz-Girald*, Earl of *Kildare*, and his party. And about the Year 1316. upon the occaſion of two *Princes* or *Lords* falling at odds, there were ſaid to be ſlain on both ſides about 4000 Men, and ſo great miſery came amongſt them through Famine, (being forced to eat one another) and other calamities, that of about 10000 there were left alive not above 300. Full of Bogs, and Woods.

This Province hath for its Eaſtern Bounds, *Leinſter*; for its Southern, *Monſter*; for its Northern, *Ulſter*; and for its Weſtern, the *Sea*, where it hath many commodious *Bays*, *Creeks*, and Navigable *Rivers*. Its Bounds.

Its Extent from *Tromer* in the Eaſt to *Barrag-Bay* in the Weſt (being the breadth) is about 80 miles; and from the River *Shennon* in the South to *Eniskelling* in the North (being the length) is about 120; and in circumference about 400 miles; and for its diviſion is parted into ſix Counties, viz. *Mayo*, *Slego*, *Tullowey*, *Clare* or *Twomond*, and *Leitrim*; all which are ſubdivided into ſeveral *Baronies*, as hereafter ſhall be named: And of theſe in order. Its Extent.

MAYO, a pleaſant and fertil County, ſtored with *Cattle*, *Deer*, *Hawks*, and *Honey*, and well watered with the two large Loughs of *Meske*, and *Garogh*, in which are ſeveral Iſles, which with the *Rivers* that fall into the *Sea*, where are ſeated ſeveral Iſles; the Inhabitants are plentifully ſupplied with *Fiſh* and *Fowl*. It is ſevered into nine *Baronies*, viz. *Tirrawly*, *Eris*, *Gallin*, *Coragh*, *Buriſhoole*, *Muriske*, *Kilmaine*, *Clonmoris*, and *Caſtello*; And hath for its chief places, County of Mayo deſcribed.

Killaloy,

Killaloy. *Killaloy*, dignified with an *Episcopal See*, which formerly was at *Mayo*, where (according to *Bede*) there was a Monastery for 30 *English men*, built by an *Irish Bishop*; and was in a flourishing condition in the Reign of King *John*.

Refraine. Stackby. *Refraine* and *Stackby*, both seated on the Sea-shoar.

County of Slego described. *SLEGO*, a County full of rich Pastures, which breed and fatten store of Cattle, and is well watered with the *Sea*, and the Lough *Earne* already treated of. It is divided into six *Baronies*; viz. *Carbury*, *Corran*, *Leny*, *Tirrarill*, *Tirreragh*, and *Coolavin*. And hath for its chief places,

Slego. *Slego*, seated on a Bay of the Sea so called, where it hath a commodious Road for Ships, and is defended by a *Castle*.

Dundroes. Dunbroyle. *Dundroes* and *Dunbroyle*, both Maritim-Towns.

County of Galloway described. *GALLOWAY*, a large and fertil County both for Tillage and Pasturage, whose Western part is washed with the Sea, which thrusteth forth several Arms, and hath lying on its Shoars divers Isles, of which the three largest (which bear the name of *Aran*) are *Great-Island*, *Ifor-Island*, *Small-Island*, all seated in the Mouth of *Galloway-Bay*. It is separated into fifteen *Baronies*, viz. *Moycullin*, *Ballinananen*, *Clare*, *Downamore*, *Bealamo*, *Killehane*, *Kilconel*, *Clanemactonene*, *Longford*, *Tiaquin*, *Athenry*, *Dunkillin*, *Kilcartan*, *Lough-Reagh*, and *Letrim*. And hath for its chief places,

Galloway. *Galloway*, a fair, large, and strong City, dignified with an *Episcopal See*, and is commodiously seated for Traffick on a spacious Bay of the Sea so called, by reason whereof it is well inhabited, frequented, and enjoyeth a good Trade. Nigh unto this City is the Lough *Carble* or *Carbles*, about 20 miles in length, and 3 or 4 in breadth, in which are abundance of small Isles.

Inis-Ceath. Inis-Bovind. *Inis-Ceath*, a place in times past well known for its *Monastery*.

Inis-Bovind, which *Bede* calleth *White-Castle-Isle*.

Atterith. Clan-Ricard. Kilmaculo and Clonfert. *Aterith*, or *Athenry*, once a place of good strength. *Clan-Ricard*, *Kilmaculo*, and *Clonfert*.

County of Clare described. *CLARE*, or *TWOMOND*, a County shooting it self far into the Sea towards the West, with a tapred *Promontory*, which with the River *Shannon*, and the Lough *Derg* (both full of small Isles) doth almost encompass it. It is a Country well provided of all things necessary for the sustenance of Man, is severed into nine *Baronies*, viz. *Burrins*, *Corcomroe*, *Ibrickam*, *Inchiquin*, *Islands*, *Clanderlagh*, *Moyfertagh*, *Bounraty*, and *Tullogh*. And hath for its chief places,

Clare. *Clare*, seated on a Creek which floweth out of the *Shannon*.

Kylaloe. *Kylaloe*, seated on the *Shannon* near the Lough *Derg*, dignified with an *Episcopal See*.

Kilfennerag. Bunraty. *Kilfennerag* and *Bounraty*, not far from the *Shannon*; a Town of some account.

County of Roscomon described. *ROSCOMON*, a long but narrow County, of a very fertil Soil, and breedeth store of *Cattle*; but Northwards, where the *Curlew Mountains* are, it is inclined to sterility. It is divided into seven *Baronies*, viz. *Roscomon*, *Boyle*, *Bealanioo*, East and West *Ballintuber*, *Athlone*, and *Moycarne*. And hath for its chief places,

Roscomon. *Roscomon*, seated near the Lough *Ree*, once a place of good account and strength.

Elphen. *Elphen*, honoured with the See of a *Bishop*.

Athlone. *Athlone*, scituate on the Lough *Ree*, defended by a *Castle*, and beautified with a fair *Stone-Bridge*. And under the *Curlew-Hills* in former time was a famous *Abby*, together with the *Abby* of *Beatitude*.

County of Letrim described. *LETRIM*, a hilly County, yet very fit for grasing of *Cattle*, which are here in great abundance. It is severed into five *Baronies*, viz. *Letrim*, *Drumaheire*, *Rosdogher*, *Carrigallin*, and *Moyhill*. And hath for its principal places,

Letrim. Menkerk. *Letrim*, seated in a fertil Soil, near the Lough *Alyne*; and *Menkerk*.

MUN-

MUNSTER.

Its Commodities. THis Province in *Irish* called *Mown*, and in Latin, *Momonia*, is Mountainous, Woody, and of a different Soil, but for the generality very fertil, and abounding in *Corn*, *Cattle*, *Fowl*, and *Fish*; and the rather as being so well watered with *Rivers* and *Bays*, which lose themselves in the Sea, which almost encompasseth it, except towards the East and North, where it butteth upon the Provinces of *Leimster* and *Connaugh*; which said Bays afford good Harbours for Shipping, the chief amongst which being those of *Bautre*, *Mare*, *Dingle*, and *Sennon*: And along the Shoar are seated abundance of small Isles.

Extent. It is of a large extent, being from *Waterford-Haven* in the East to *Feriter-Haven* in the West, about 100 miles; and from *Baltimore-Bay* in the South to *Galloway-Bay* in the North, about 90; and in circumference, tracing its many *Promontories* and *Indents*, above 500 miles.

Division. And as to its *Temporal Government*, it is at present severed into six Counties, *viz. Limerick*, *Tipperary*, or *Holy-Cross*, *Kerry*, *Cork*, *Desmond*, and *Waterford*; all which are subdivided into several *Baronies*, as shall be treated of as they come in order; and first with *Limerick*.

County of Limerick described. *LIMERICK*, a fertil and well inhabited County, is severed into eleven *Baronies*, viz. *Abbey-Outheney-boy*, *Limerick-Liberty*, *Clan-Williams*, *Small-County*, *Cosma*, *Coslea*, *Killmalock*, *Poblebria*, *Kenry*, *Cuonagh*, and *Connelloe*. And hath for its chief places,

Limerick. *Limerick*, in *Irish*, *Loumeagh*, the chief City in the Province, seated in an Isle, so made by the River *Shennon*, which after 60 miles course loseth it self in the Sea; and by reason of its commodious scituation, the River being Navigable to the very City, makes it to be a place well inhabited and frequented, is graced with good built Houses, beautified with a *Cathedral Church*, and a fair *Stone-Bridge*, is honoured with the See of a *Bishop*, and is strongly fortified with a *Castle*, and begirt with a *Wall*.

Killmallo. *Kill-Mallo*, a well inhabited Town, which is also begirt with a *Wall*.

Adare. *Adare*, seated on the *Shennon*, once a Town of good account: And *Clan-William*.

County of Tipperary, or Holy-Cross described. *TIPPERARY*, or *HOLY-CROSS*, more fertil in its Southern parts than elsewhere, is divided into twelve *Baronies*, viz. *Slevardagh* and *Compsey*, *Kilnemana*, *Ikerin*, *Iffa* and *Offa*, *Iliogurty*, *Middle-third*, *Owney* and *Arra*, *Clan-Williams*, *Ileagh*, *Kilnelougurty*, *Upper-Ormond* and *Lower-Ormond*; and hath for its principal places,

Cassile. *Cassile*, seated on the *Showr*, and dignified with an *Archiepiscopal See*, by *Eugenius* the Third, Bishop of *Rome*.

Holy-Cross. *Holy-Cross*, seated on the River *Showr* or *Suire*, once a place of good account and note for its famous *Abby*, which was well frequented by *Pilgrims*, and other devout persons, who came to see and worship a piece (as was generally supposed) of the *Holy-Cross*, from whence the Country adjoyning is generally called County of the *Holy-Cross* of *Tipperary*.

Emeley. *Emeley*, dignified with the See of a *Bishop*; once a place of good account, and well inhabited and frequented.

Clomel. *Clomel*, seated on the River *Showr*, a well frequented Town.

Carick-Mac-Griffin. Thurles. Tipperary. *Carick-Mac-Griffin*, scituate on a Rock. *Thurles* and *Tipperary*.

The North part of this County (which is very hilly, and not over fertil) beareth the name of *Ormond*, and is honoured in giving Title to his Grace *James Butler*, Duke, Marquess, and Earl of *Ormond*, Earl of *Brecknock* and *Ossery*; Viscount *Thurles*, Baron of *Arklow* and *Lanthony*, Lord Steward of his Majesties Houshold, Knight of the Garter, and one of the Lords of his Majesties most Honourable Privy Council, &c.

County of Kerry described.

KERRY, a County watered with the Sea, where it thrusteth forth a large Bay called *Dingley-Bay*, and hath on its Shoar divers small Isles. It is very Mountainous and Woody, but interlaced with fertil Valleys. 'Tis divided into eight *Baronies*, viz. *Glanerought*y, *Iveragh*, *Dunkerone*, *Moygunnyhy*, *Trughanackme*, *Corkaguiny*, *Iraghticonnor*, and *Clanmorris*; And hath for its chief places,

Dingle.

Dingle, which hath a commodious Port, on the other side of which is *Smerwick-Sound*, a good Road for Ships.

Ardart. Traley.

Ardart, a place of mean account, although the See of a Bishop; and *Traley*.

County of Desmond described.

DESMOND, a Mountainous County, and well washed with the Sea, which thrusteth forth its Arms a good way into the Land, and forms three Promontories, *viz.* first that of *Eraugh*, lying between *Baltimore* and *Bantre*, a Bay sufficiently well known for the great store of *Herrings* here taken. Secondly, that of *Beare*, being enclosed between the Bays of *Maire* and *Dingle*. It hath for its chief places,

Donekyran. Ardts. Downbay.

Donekyran, defended by a Castle: *Ardes*, and *Downbay*.

County of Corke described.

CORKE, a large County, lying on the Sea, where it hath good Roads and Ports for Ships. It is severed into fifteen *Baronies*, viz. *Duhallo*, *Condons* and *Clangibon*, *Orrery* and *Killmore*, *Fermoy*, *Imokillire*, *Barrimore*, *Corke*, *Courcey*, *Kinsale*, *Barryroe*, *Ibawne*, *Beare* and *Bantry*, *Musbery*, *Carbury*, and *Barrets*. And hath for its chief places,

Corke.

Corke, the chief City in the Province, dignified with the See of a *Bishop*, commodiously seated on a Bay of the Sea, where it hath a good *Haven*, by reason of which it is a place well inhabited, and frequented by *Merchants* and *Tradesmen*, who drive a good Trade; and is a place of some strength, being begirted with a *Wall*, besides a *River*, over which it hath a Bridge.

Kinsale.

Kinsale, seated at the Mouth of the River *Bany*, where it hath a good Port, and is a place well fortified.

Ross.

Ross, seated on the *Sea-shoar*; once of good account, when it had a good Road and Port, which now is barred up.

Yoghall.

Yoghall, fortified with a *Wall*, and scituate on the River *Broadwater*, at its influx into the Sea, where it hath a good *Haven*, which makes it to be well inhabited, and to enjoy some Trade.

County of Waterford described.

WATERFORD, a pleasant and fertil County, washed with the Sea, is divided into seven *Baronies*, viz. *Deeceis*, *Gualtier*, *Cosmore* and *Cosbbride*, *Middle-third*, *Upper-third*, *Glambery*, and *Waterford-Liberty*. And hath for its chief places,

Waterford.

Waterford, by the *Britains* and *Irish* called *Porthlargy*, said to be built by certain Pirates of *Norway*, seated on the River *Showr*, on which it hath a commodious and capacious Port, where about a 1000 Sail of Ships may safely ride at Anchor: It is a fair and well inhabited City, enjoyeth a good Trade, is dignified with the See of a Bishop, and is esteemed the second place of note in the whole Kingdom.

Dungarvan.

Dungarvan, a well fortified Town on the Sea-shoar, where it hath a good Road for Ships, which makes it to be of some account.

Ardmore. Lismore.

Ardmore, also seated on the Sea-shoar.

Lismore, a place of some note.

Divers small Isles in the British Sea.

And thus much for the Description of *Ireland*, besides which, and *Great Britain*, there are a vast number of lesser Isles, which may be comprehended under the denomination of the *British Isles*, and may be considered under four sorts or heads; *viz.* the *Orcades*, the *Hebrides*, the *Sorlinges*, and the Isles of *Scilly*, with those of the *Sporades*: And of these in order.

THE

Isles of *Orkney*, when first discovered, and how subdued.

THE *ORCADES*, or ISLES of *ORKNEY*, are in number 32, and scituate against the Northern Cape of *Scotland*, from which it is separated by a narrow Streight. In *Solinus* his time they were uninhabited, and overgrown with sledgy or rushy Weeds, and at present they are not overcrowded with People, as not being very commodious to dwell in, being very cold, destitute of *Woods*, and unfit to bear *Wheat*, so that instead of Bread-corn they make use of dried *Stock-fish*, which they beat to powder. And these *Isles*, according to *Tacitus*, are said to be first discovered by *Julius Agricola*, when he sailed round *Britain* with his Fleet, at which time he brought them under his subjection: After that, according to *Ninnius*, *Octha*, and *Ebissus*, *Saxons* (who served under the *Britains*) sailed about the *Picts* Country with 40 Sail of *Cyules*, that is, *Flyboats*, or *roaving Pinnaces*, and sorely wasted these *Isles*: Soon after this they fell into the hands of the *Norwegians*, who kept the possession thereof until the Year 1266, at which time the *Scots* waging War with them, *Magnius*, the Fourth of that name (then King of *Norway*) was constrained to surrender them up again upon composition unto *Alexander* the Third, King of the *Scots*, which was afterwards confirmed by King *Haquin*: And in *Anno* 1498, *Christian* the First, King of *Norway* and *Denmark*, upon the Marriage of his Daughter to *James* the Third, King of the *Scots*, renounced all his Right for himself and his Successors thereunto.

Its People.

And the People that inhabit these *Isles*, as well in Language as Behaviour, resemble much of the *wild Irish*, and are called *Redshanks*, a sort of People utterly rude and barbarous. The chief of these *Isles* are as followeth:

Pomonia.

POMONIA, by *Solinus* called *Pomona Diutina*, and by the Inhabitants *Mainland*, for that it is far larger than all the rest, being about 26 miles in length, and 6 in breadth; an Isle well stored with *Lead* and *Tin*, is indifferently inhabited, and hath for its chief Town,

Kirkwale.

Kirke-wale, a large Town, dignified with an *Episcopal See*, is fortified with two *Castles*; and for Divine Worship hath 12 *Churches*, one of which, to wit its *Cathedral*, is a fair Structure.

Hoy, with other Isles.

HOY, indifferent large, having several Towns; *Souna*, *Flotta*, *South-Ranals*, *Burra*, *Siapins*, *Eglis*, *Roous*, *Wester*, *Papa*, *Fara*, *Heth*, or *Eda*, *Streoms*, *Sand-Isle*, and *North-Ranals*, with divers others of less note, and not worth the naming.

Shetland Isles.

The ISLES of *SHETLAND*, by some (though falsly) esteemed the *Thule* of the Ancients, and by the Commentator upon *Hordee*, the *Fortunate* Island, where (according to the fabulous Opinion of *Tzetzes*) the Souls of good men are ferried over into those *Elysian Fields*, which are always clothed in their Summer-Livery; but the mistake is very gross, for on the contrary, this Isle lying in the Latitude of 63 *degrees*, is extreamly Cold, and the greatest part of the Year pestered with *Ice* and *Snow*; and the more, as lying on every side open to the bitter Storms of the Northern Ocean.

Isle of Hebrides described.

The *HEBRIDES*, *HEBUDES*, or Western Isles, as seated Westwards of *Scotland*, are about 44 in number, and for the generality are plentifully provided with *Corn*, *Woods*, *Sheep*, *Salmons*, *Herrings*, and other *Fish*, as also with *Fowl*, *Deer*, and *Conies*. And for the People (according to *Solinus*), they are said to be uncivil, ignorant of Religion, Arts, and Literature, contenting themselves in a mean condition, for Food, Rayment, or Habitation; and all these *Isles* were anciently ruled by a King of their own, which was not by succession, but election; and to that end their Kings were prohibited to marry, but were permitted to enjoy other mens Wives, which he fancied, when, and as long as he pleased. And 'tis said, that in the other part of *Scotland* (according to ancient Custom) the Virginity of all New-married Wives were the Landlords due, until such time that King *Malcolme* made a Law, that half a Mark should be paid for redemption. It seemeth *Maiden-heads* in these parts were then of no great value, for a *Mark Scotch* is little above a *Shilling English*. The chief of these Isles are,

Lewis-Isle. *LEWIS*, or *LEVISA*, the largest of all these Isles, being about 60 miles in length and 30 in breadth; an Isle full of steep, craggy, and stony Hills, not over-thronged with Inhabitants, but hath several small Towns.

Skye-Isle. *SKYE*, adjoyning to the Sea-Coast of *Scotland*, almost as large as *Lewis*, hath several Inlets of the Sea, is Hilly and Barren: And hath for its chief places,

Tranterneſca. *Tanterneſca*, seated on the Sea-shoar, before which lieth a small Isle.

Dunbegan. *Dunskaca.* *Dunbegan*, seated on a Creek or Arm of the Sea, and *Dunskaca*.

Eust-Isle. *EUST*, an Isle (or rather Isles) of a long, but narrow extent, in which are seated several small Towns. And near unto the Southern part of this Isle lie several small ones, the chief amongst which is *Barray*.

Mula-Isle. *MULA*, by *Ptolomy* called *Maleos*, about 28 miles long, and 20 broad, is seated near unto the County of *Lorne* in *Scotland*, from which it is severed by an Arm of the Sea, where are such abundance of small Isles, that the passage is almost choaked up. It is an Isle (as all the rest) hilly, and not over fertil, but affords good store of *Fish* and *Fowl*, and hath Mines of *Lead* and *Tin*. Its chief places are,

Arroiſca. *Arroiſca*, scituate on the Sea-shoar, which regardeth the County of *Laquebra* in *Scotland*.

Dovert-Castle. *Dovert-Castle*, also scituate towards the Coast of *Scotland* Eastwards.

Ila-Isle. *ILA*, of old *EPIDIUM*, of about 24 miles in length, and 16 in breadth, almost divided into two parts by Inlets of the Sea. It is plentifully stored with *Cattle* and Herds of *Red-Deer*, and its Land, which is of a Champain and fertil Soil, beareth good *Corn*, and participating something with the quality of *Ireland*, from which it is not far distant. In this Isle are seated several Towns, amongst which are *Gwelwal*, *Kylmany*, and *Dunweg*.

Sura-Isle. *SURA*, a small Isle, lying between *Ila* and *Scotland*, where, at *Sodore*, formerly the Seat of a Bishop, who had Jurisdiction over all these Isles, stood a *Monastery* famous for the Tombs of the *Scotish Kings*, and the frequent recourse of Holy men thereunto; amongst whom *Columbe*, the Apostle of the *Picts*, was of chief note, and from whose *Cell* the Isle is also called *Columb-Kill*.

Arran-Isle. *ARRAN*, which *Antonius* calleth *Glotta*, is an Isle seated in the *Dunbritain-Frith*, between the Counties of *Cantyr*, *Argile*, *Kyle*, and *Galloway*. It hath for its chief places,

Arran, Brydyk. Glenkill. *Arran*, seated on a Bay of the Sea. *Brydyk*, and *Glenkill*.

All the rest of the *Isles*, comprehended under the name of the *Hebrides*, are very small and inconsiderable, being either stony, very barren, or else inaccessible, by reason of their craggy Cliffs; wherefore I shall omit the naming of them.

The Isles of Scilly. The ISLES of *SCILLY*, by the *Dutch* called the *Sorlings*, and by the ancient *Greeks* the *Hesperides* and *Cassiterides*, are scituate against the most Western Cape of *Cornwall*, from which they are about 24 miles distant, and are about 145 in number; all being plentifully stored with *Coneys*, *Cranes*, *Herons*, and other *wild Fowl*, which breed in the craggy Cliffs and Hills, and some of them fertil in Grain. Amongst these Isles, these following are of chief note:

Scilly. *SCILLY*, which communicates its name to the rest of the Isles; *Armagh*, *Agnes*, *Sampson*, *Brefar*, *Rusco*, *St. Hellens*, *St. Martins*, *Arthur*, and *St. Maries*, the largest and most fertil of all both for *Corn* and *Pastures*, is about eight miles in circuit; is strengthned with a *Castle*, called *Stella Maria*, built by Queen *Elizabeth*; and hath a large and commodious Harbour for Ships.

Under the Name of the *SPORADES*, may be comprehended several ISLES, which are dispersed about the *British Seas*. And first the Isle of *Man*.

MAN,

MAN, an Island scituate in that part of the *British Ocean*, which is called *St. Georges Channel*, and lieth between the Kingdoms of *England*, *Scotland*, and *Ireland*, to wit, South of *Scotland*, West of *England*, and East of *Ireland*; from all which it is not so far distant, but that in a clear day, on the top of *Sceaful-Hill* (which is in the midst of the Isle) all the three Kingdoms may easily be seen. Isle of *Man*. Its scituation.

This *Isle* by *Ptolomy* was called *Moneda*; by *Pliny*, *Monabia*; by the *Britains*, *Menow*; by the *English*, *Man*; and by the Inhabitants, *Maninge*. Its Names.

The Air is sharp, but healthful, and subject to high Winds; yet the Frosts are short, and the Snow lieth not long in the Valleys. The Soil is reasonable fruitful (yet very Mountainous) affording good store of *Wheat* and other Grain, especially *Oats*, of which the Inhabitants make their Bread; and its Pastures feed good Flocks of *Sheep*, and Herds of *Cattle*, which for smallness resemble those of the ancient *Irish* breed. Here are great store of *Fowl* of sundry sorts, especially in the Isle of *Calf*, a very small spot, seated in the South-part towards *Anglesey*, where there are also abundance of *Puffines*, a certain *Sea-Fowl* that breeds in *Cony-holes*, and are chiefly useful for their *Feathers*, and the Oil made of them; yet their Flesh, if pickled or salted, comes little short of *Anchova's*, by reason of their Fish-like taste. Here are also *Red-Deer*, abundance of *Coneys*, and in its fresh-water Rivers and Sea-Coast, are taken store of *Fish*. Its Air, temperature, and fertility. Isle of *Calf*.

It produceth *Hemp* and *Flax* in great plenty; also *Wool*, *Hides*, *Tallow*, *Goats-skins*, *Lead-Oar*, *Herrings* in small quantities, and *Corn*, when they are assured that there is enough to serve themselves.

The Inhabitants do not much addict themselves to Traffick, only contenting themselves in way of Barter for such Necessaries as they have most occasion for, as *Iron*, *Salt*, *Pitch*, *Tar*, and the like; and for support of this their small Trade, they make choice of certain Merchants, which are chosen by the Inhabitants at the *Tinewald-Court*, and accordingly are sworn by the *Deemsters* or *Judges* to deal uprightly, and for the profit of the Inhabitants. And these Merchants are the only persons that do negotiate with such as bring Commodities unto them in way of Barter; and what Bargains the said Merchants make, the Inhabitants are obliged to stand unto; and the said Commodities so taken in Truck, are equally distributed to every one according to the Goods he parted with. Its Trade and Commodities.

The form of this *Isle* is long and narrow, being about 30 miles in length, and about 9 in breadth, where broadest. Its Form.

It is very destitute of *Wood*, which makes the Inhabitants use *Turff* and *Peat* for their Firing.

It is generally an High-land on the Sea-Coast, and guarded with Rocks, even a farther distance than the *Low-water-mark*.

The Inhabitants were anciently the *Hebrides* or *Highlanders*, which is apparent by their Language; and before Christianity had footing here, were very rude and barbarous; but at present they are a civil and laborious People, no ways voluptuous in their Diet, nor costly in their Apparels or Habitations; they are very Religious, and neglect not the Church; yet (as all People) they are inclined to *Venery*; Contentions and Strifes they are not much addicted unto, living in Amity together; and for Recreation, they are so much addicted to the musick of the *Violin*, that there is scarce any Family but is provided therewith. Its Inhabitants.

As to the Government for Spiritual Affairs, it hath a *Bishop*, who at present is the Right Reverend Dr. *Henry Bridgman*, and is called Lord Bishop of *Sodore*; and for Temporal Affairs, a *Lieutenant*, or *Governour*, with two *Deemsters* or *Judges*, a *Controller*, a *Clerk* of the *Rolls*, a *Receiver*, a *Water-Bailiff*, an *Attorney-General*, and other Officers. And to their further assistance (as occasion requireth for the deciding of Controversies, &c.) are usually called the 24 *Keys* of the Isle, especially once every year, to wit, upon *Midsomer-day* at *St. Johns Chapel* to the *Tinewild-Court*, where (upon a Hill adjoyning to the said *Chapel*) the Inhabitants of the Isle, being there assembled, hear the Laws The Government.

and

and Ordinances agreed upon before in the *Chapel*, which is performed with no small ceremony and pomp, especially if the Lord of the Isle be present, who is seated on a Chair of State, with a Canopy over his head, and attended by his Barons, *viz.* the *Bishop*, the *Deemsters*, the *Gentry*, and the *Yeomanry*. The present Lord of the Isle (who is called *King* in *Man*) is the Right Honourable *Charles Stanley*, Earl of *Darby*, Baron *Strange* of *Knocking* and *Mohan*, &c. a Dignity hereditary to him and his Heirs.

Good Orders observed in their Law.

The Inhabitants have a great happiness above those of *England*, in that they are freed from necessary and chargeable Suits, and heavy Fees of the *Lawyers*; for here no *Judge* or *Clerks* take any thing for drawing up Orders, or making up Processes, all Controversies being ended by the *Deemsters* without Writings, or matter of Charge; and for the deciding the same they have their several Courts, kept at certain times of the year for the Inhabitants of such a *sheading* or division of the *Isle*, where they have particular Officers, which do observe good Rules and Orders.

The People do here observe two very good Customs; the one, in not permitting the Poor to get their living by Begging; and the other, that when the Women go abroad, they begirt themselves with their *Winding-sheet*, to put them in mind of their Mortality.

This *Isle* is severed into two parts, *viz.* South and North, whereof the Inhabitants of the one have affinity with the *Scots*, and the other with the *Irish*. And in these parts are numbred 17 *Parishes*, and many *Villages*, is defended by two *Castles*, and for intercourse of Traffick hath five *Market-Towns*. Its chief places are,

Its chief places. *Douglas.*

Douglas, the best Peopled Town, and of the greatest resort by reason of its commodious Haven, unto which the *French* and others come to Traffick with them for their Commodities as aforesaid; and for the security of the Harbour here is a *Block-house*.

Russin.

Russin, or *Castle-Town*, where (within a small Isle) Pope *Gregory* the Fourteenth instituted an *Episcopal See*: It is fortified with a strong *Castle*, out of no great importance, as to the security of the place, by reason of its distance from the rocky and shallow Harbour.

Laxi-Town.

Laxi-Town, seated on a Bay so called.

Ramsey.

Ramsey, scituate on the Sea, where it hath a Haven, which for defence hath some *Guns* mounted thereon.

Peel.

Peel, or *Peel-Castle*, seated in St. *Patricks-Isle*, a place of great strength towards the Sea, and defended by a *Castle*, being a *Market-Town*, as are the former. Amongst its other places are these following; *Balacuri*, honoured with the Palace of the Bishop, *Kirk-Androw*, *Kirk-Patriark*, *Kirk-Balalough*, *Kirk-Mighill*, *Kirk-Lennon*, *Kirk-Brodon*, *Kirk-Santon*, and *Kirk-Christ*.

The Isle of *Jersey* described.

JERSET, seated near the Coast of *Normandy* in *France*, and opposite to *Hantshire* in *England*, of which it is a part; it is a place of good strength, as well by Nature as Art, as being fenced about with Shelves and Rocks, and defended by several *Castles*. It is an Isle of a fertil Soil; and the more by reason of their rich manuring it, bearing good crops of *Corn*, and other Grain, and breeding store of *Cattle*, especially good Flocks of *Sheep*, whose *Wool* is fine, of which they make *Jersey-Stockings* in great plenty. It is ill clothed with *Wood*, instead of which they use for Fuel a kind of *Sea-weed*, which they call *Vraic*, which plentifully groweth on the Rocks, and in the craggy *Islands*, and this being dried, they burn, and with the Ashes they manure the Land: Nor are they permitted to gather it, but in the *Spring* and *Summer-season*, and then upon certain days, according to the appointment of the Magistrates.

Its extent.

This Isle containeth in length, from *Mount-Orguil-Castle* in the East to *Sentwon-pool* in the West, about 10 miles; and in breadth, from *Dixon-point* in the South to *Plymouth-Bay* in the North, about 6; and in circumference about 38 miles.

It is

Its Air and temperature.

It is blest with a sweet, temperate, and wholsom Air, not being subject to any disease, except Agues in *September*. It is well watered with fresh Streams, and hath great plenty of Fruit: and the Inhabitants, who are much of the nature of the *French*, in their Language, Manners, &c. live very happily, enjoy the fruits of their labour, addicting themselves to Fishing, but principally to the Manufacture of *Stockings*, which finds good vent in *England*, and elsewhere.

Government.

The Government of this Isle is as followeth; *viz.* a *Governour* or *Captain* is sent over by the King of *England*, who appointed Sub-Officers, as a *Bailiff*, who together with twelve *Jurates*, or sworn *Assistants*, which are elected out of the 12 Parishes, by the choice of the Inhabitants, sit and administer Justice in *Civil Causes*; but in *Criminal matters*, he sitteth with seven of them; and in *Causes* of *Conscience*, which are to be decided by reason and equity, with only three.

Its chief places.

This Isle is every where furnished with commodious *Creeks* and *Havens*, and is garnished with twelve *Parishes*, besides several *Villages*. Its chief places are,

St. Hillarets.

St. Hillares, so called from St. *Hillary* Bishop of *Poictiers*, who was hither banished, and here interr'd: a Town seated on the Sea-shoar, nigh unto which is a small *Isle* so called, which is fortified with a Garrison; and this Town is the principal in the *Isle* for its *Market*, *Commerce*, plenty of *Inhabitants*, and for being the place where the Courts of *Judicature* are kept.

St. Albans.

St. Albans, seated not far from the Sea, where it hath a a Haven; as also a small *Isle* so called.

St. Clements.

St. Clement, seated on an Arm of the Sea; not far from which is the *Castle* of *Mount-Orguil*, seated on a steep Rock on the Eastern-shoar; nigh unto *Mount-Orguil.* which is a place called the *Rock*, and another called *St. Katharines-point*: also these Towns, *Trinity*, *St. Johns*, *St. Lawrence*, *St. Brelade*, *St. Peters*, *St. Owen*, *St. Maries*, and *Greve de Leke*; not far from which on the North-shoar, is seated the strong Castle of *Groneß*.

The Isles of *Garnsey* described.

GARNSET, seated about 15 miles North-west from *Jersey*, and on the same Coast; an *Isle* not so large, nor altogether so fertil as *Jersey*, by reason the Inhabitants do not addict themselves so much to cultivating and manuring it, as they do to Traffick, for which this is more eminent; yet doth it in a liberal manner answer the Husbandmans labour, bringing forth good increase, and breeding good store of Cattle. This *Isle* is seated very high, having many steep Rocks, amongst which is found a hard and sharp Stone called *Emersill*, which is used by *Lapidaries*, for the cleansing, cutting, and burnishing their *precious Stones*; as also by *Glasiers*, for the cutting their Glass. And for many reasons this *Isle* may be preferred before *Jersey*, as for its greater strength, more commodious *Havens*, which are better resorted unto by *Merchants*, and for that it suffereth neither *Toad*, *Snake*, *Adder*, or any other venemous Creature to live, which the other doth.

Its Government.

The Government of this Isle, as also the People, as to their Language, Customs, &c. are much the same as in *Jersey*.

Chief places.

In this Isle are numbred ten *Parish Churches*, besides *Villages*; the chief amongst which are,

St. Peters.

St. Peters, a Town not very large, but well inhabited and repleniſhed with Merchants. It is a place of good strength; for the entry of the Haven, which is Rocky, is fortified on both sides with *Castles*, as also by *Block-houses*, of which that on the right hand called *Cornet*, is seated on a high Rock, which at every High-water is encompassed with the Sea; and here resideth the *Governour*, as also (for the generality) the *Souldiers*, which are kept for the security of the Isle; and is well provided with all sorts of Ammunition for War, if occasion should so happen. Its other places are, *Tortuville*, *St. Saviours*, *St. Andrews*, *Trinity*, *St. Martins*, *St. Maries*, *St. Sampsons*, and *St. Michaels*. On the West part of the Isle, near the Sea, is a Lake of about a mile and an half in compass, which is well repleniſhed with Fish, especially *Carps*.

Other places.

This

Serk Isle. Jethew-Isle.

This Island, as also that of *Jersey*, with several other small ones on the Coast of *Normandy* and *Britain*, are under the Dioceſs of *Winchester*; amongſt which Isles are those of *Serke*, encompassed with steep Rocks. And *Jethew*, which serveth as a Park for the Governour of *Garnsey*, to feed *Cattle*, to keep *Deer*, *Coneys*, and *Pheasants*, and was formerly a solitary place of *Regular Canons*, and after for the *Franciscan Friars*.

Isle of Wight.

ISLE of *WIGHT*, opposite to *Hantshire*, of which it is a part, already treated of in the description of the said County.

Portland-Isle.

PORTLAND, a small Isle, adjoyning to the County of *Dorset*, of which it is also a part, and already there treated of.

And besides these *Isles*, there are divers others which may not so properly be ranged under these four heads aforesaid; and such are those of

Londay-Isle.

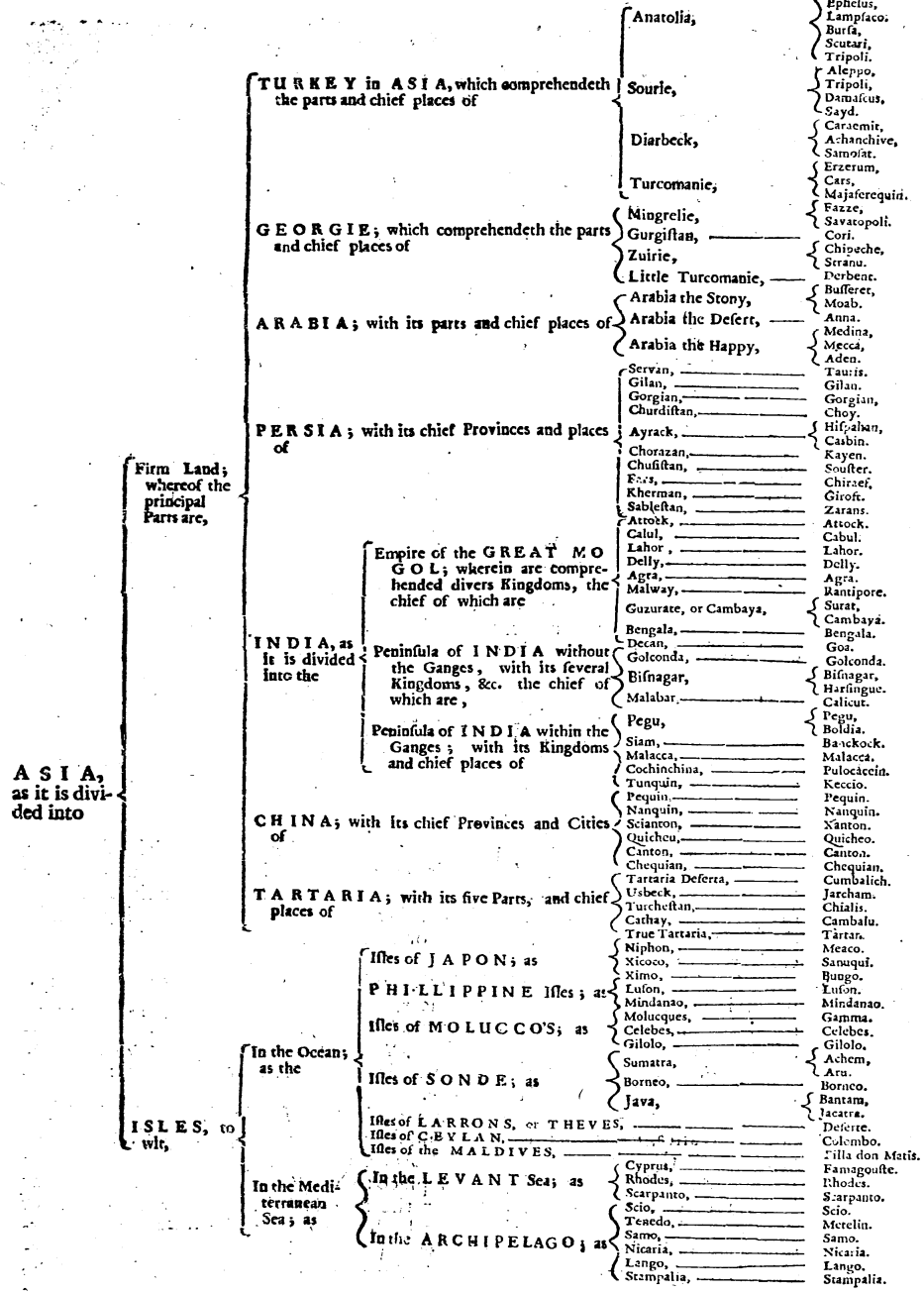
Londay, seated over against *Devonshire*, about two miles in length, and as much in breadth, very fertil and strong, whose chief place beareth the same name. Also *Chaldey* and *Dennoy*, all in the *Severn Sea*.

Chaldey and Dennoy-Isles. Isles of Sheppey and Thanet.

Also the *Isles* of *SHEPPY* and *THANET*, in (and near) *Kent*, already taken notice of; and lastly those of *FARN*, *COCKET*, and *HOLY-ISLAND*, on the Coast of *Northumberland*, likewise there treated of.

Thus having given a Description of *EUROPE*, we shall in the next place take a View of *ASIA*.

ASIA,



ASIA.

Asia the first place of Monarchies, of all Religions, &c.

ASIA is one of the Tripartite division of our Continent; and if we consider the advantages which the Author of Nature hath given it, if the Actions which have passed in it both before and after the *Flood*; that the first Monarchies, and all Religions have here had their beginnings; that the chief Mysteries (both of the Old and New Law) have there been laid open; we may be induced to prefer it before all other parts, either of the one or other Continent.

And as of the two Continents ours is much the greater, the more noble, and most considerable; so is *Asia* among the three parts of our Continent, the Greatest, the most Oriental, the most Temperate, and the Richest.

Its length and breadth.

Its Extent from West to East is from the *55th Meridian* or *degree* of *Longitude* unto the 180, containing 125 *degrees* of *Longitude*, which are about 2500 of our common *Leagues*; and from South to North from the *Equator* to the 72 *Parallel* or *degree* of *Latitude*, which is 72 *degrees* of *Latitude*, and makes about 1800 of our *Leagues*. In this length and breadth we do not comprehend the *Islands* which belong to *Asia*, which are as great, as rich, and possibly as numerous, as all the rest of the Universe.

Its Scituation.

Its Scituation, for the most part, is between the Circular Tropick of *Cancer*, and the Circle of the *Artick Pole* scarce extending it self beyond this, but surpassing the other in divers of its Isles, which it expands under the *Equator*: so that almost all *Asia* is scituate in the *Temperate Zone*; what it hath under the *Torrid*, being either *Peninsula's* or *Isles*, which the *Waters* and *Sea* may easily refresh.

Asia the richest of all the four Parts.

ASIA being the greatest, the best, and most temperate part of our Continent, it must by consequence be the richest; which not only appears in the goodness and excellencies of its *Grains*, *Vines*, *Fruits*, *Herbs*, *&c.* but likewise in its great quantities of *Gold*, *Silver*, *Precious Stones*, *Spices*, *Drugs*, and other Commodities and Rarities, which it sends forth and communicates to other parts, and particularly to *Europe*.

Amongst the three divisions of our Continent, *Asia* is that which hath the fairest advantage for its greatness, and for its scituation; being that Country which saw the Creation of the first *Man*, the making of the first *Woman*; which fed the first *Patriarks*, gave a place to the *Terrestrial Paradise*; that which received the *Ark* of *Noah* after the Flood; which was the Portion of *Sem*, the eldest Son of *Noah*, which built the *Tower* of *Babel*, which furnished the rest of the World with Inhabitants; which established the Monarchies of the *Assyrians*, *Medes*, *Babylonians*, and *Persians*; which formed the

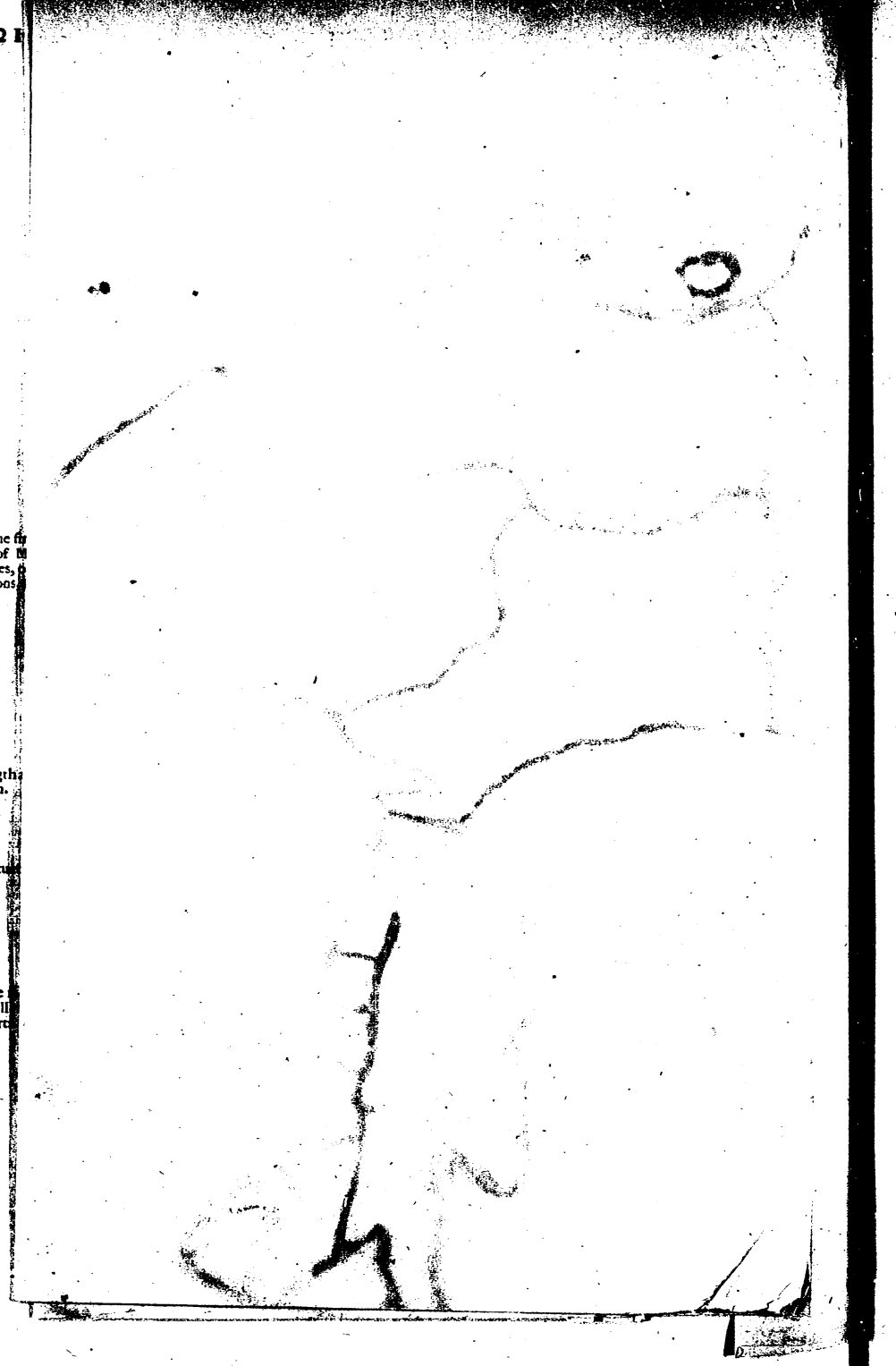
Arts

name.

Bounds.

division.


PART OF SEPTENTRIONAL OCEAN
SEA of MOSCOVIA
SEA of TARTARIA
Arctick Circle
SWEDEN
POLAND
TARTARIA
DESERT
BLACK SEA
CASPIAN SEA
TURCOMANIA
ANATOLIA
ARABIA
the DESERT
HAPPY ARABIA
PERSIA
INDIA
PENINSULA of INDIA
With out the GANGES
Gulph of Bengala
PENINSULA of INDIA
Within the GANGES
CHINA
JAPAN
ISLES of PHILIPPINE
Tropick of Cancer
NORTH
50 MILLIMETRES
10 CENTIMETRES



Asia the fi
place of M
narchies, o
Religions.

Its length a
breadth.

Its Situ

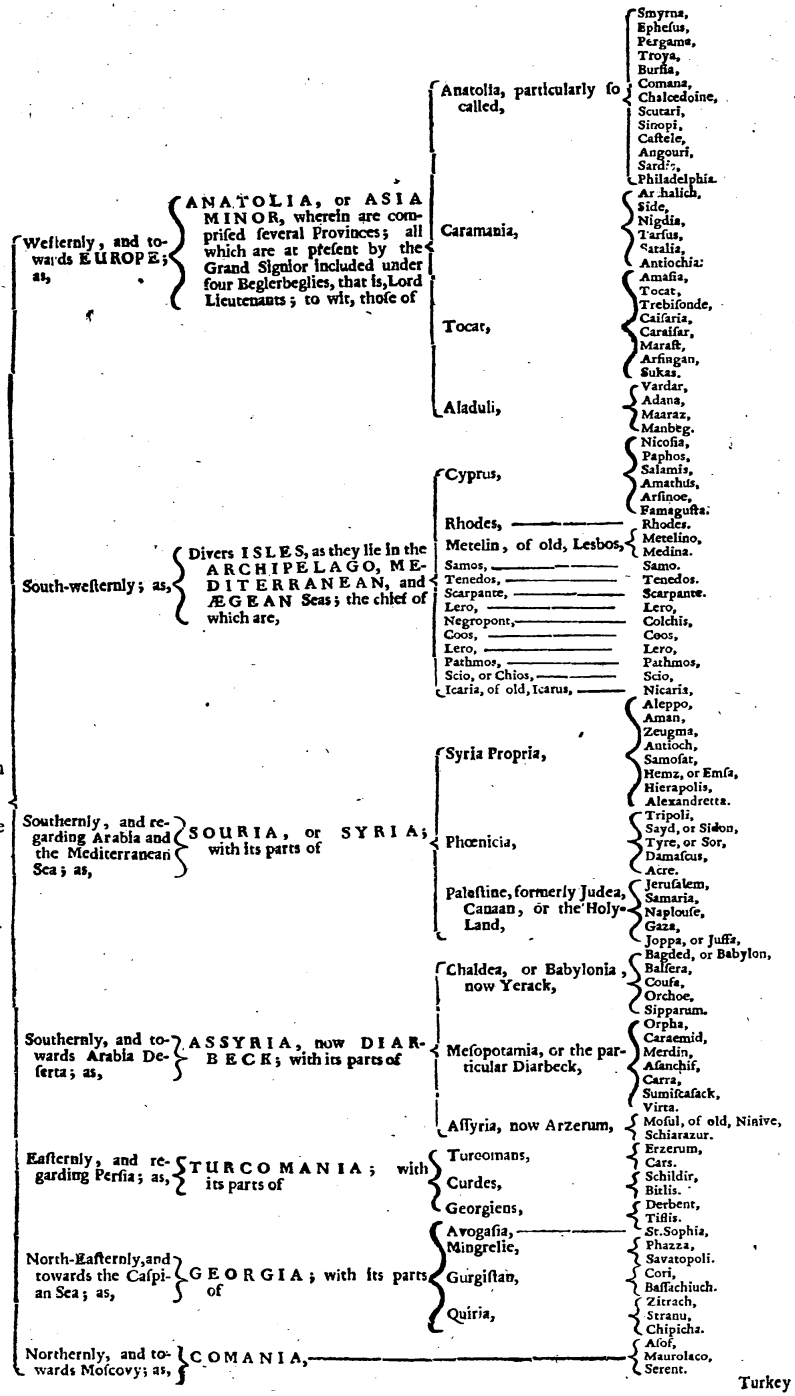
Asia the
eſt of all
four Part

Arts and *Sciences*, *Letters* and *Laws*; which firſt and after the Law of Nature received *Paganiſm*, *Judaiſm*, *Chriſtianity*, and *Mahumetaniſm*; which ſaw the Birth, Life, Death, and Reſurrection of the *Saviour* of the World: And therefore for all theſe Reaſons we ought to eſteem *Aſia* much above either *Africa* or *Europe*. But let us proceed to its Name, Bounds, and Diviſions.

The Name of *ASIA* is derived diverſly by ſundry Authors, but whether it took its name from a *Virgin-Woman*, or a *Philoſopher*; whether from ſome *City*, *Country*, or *Mariſh*, or from whatever it were, moſt certain it is, that that Name was firſt known to the *Greeks*, on that Coaſt oppoſite to them towards the Eaſt; afterwards it was given to that Region which extends to the *Euphrates*, and which is called *Aſia Minor*, and was communicated to all the moſt Oriental Regions of our Continent. Its Name.

Its Bounds are towards the North, with the *Northern frozen*, or *Scythian Ocean*, to wit, that which waſhes *Tartary*; on the Eaſt and South with the *Oriental* or *Indian Ocean*, the Parts of which are the Seas of *China*, *India*, and *Arabia*. Towards the Weſt, *Aſia* is ſeparated from *Africa* by the *Red-Sea*, from the Streight of *Babel-Mandel* unto the *Iſthmus* of *Suez*; and from *Europe*, by the *Archipelago*, by the Sea of *Marmora*, and by the *Black-Sea*; drawing a Line croſs all theſe Seas, and paſſing by the Streight of *Galipoli*, or the *Dardanelles*; by the Streight of *Conſtantinople*, or Chanel of the *Black-Sea*, by the Streight of *Caffa* or *Voſpero*; the Line continuing by the Sea of *Zabaque*, and by the Rivers of *Don* or *Tana*, of *Volga* and of *Oby*, where they are joyned the neareſt one to another. Its Bounds.

Aſia may be divided into firm Land, and Iſlands; the *firm Land* comprehends the Kingdoms of *Turkey* in *Aſia*, *Arabia*, *Perſia*, *India*, *China*, and *Tartary*: We will follow this order, and then end with the *Iſles*. Its diviſion.



Turkey

Turky in Aſia.

UNDER the name of *TURKY* in *ASIA* we underſtand not all which the Great *Turk* poſſeſſes, but only certain Regions which he alone poſſeſſes, or if there be any Eſtates intermixed, they are inconſiderable. And in this *Turky* we ſhall find *Anatolia*, which the Ancients called *Aſia Minor*; the greater *Souria*, which the Ancients called *Syria* the Great; *Turcomania*, by the Ancients called *Armenia* the Great; then *Diarbeck*, which anſwers to *Meſopotamia*, and to divers parts of *Aſſyria*; and the *Chaldea*, or *Babylonia* of the Ancients.

ANATOLIA is that great *Peninſula*, which is waſhed on the North by the *Black-Sea*, *Mare Major*, or *Euxine Sea*; and on the South by that part of the *Mediterranean* which we call the *Levant Sea*; which extends Weſtward to the *Archipelago* or *Ægean Sea*, and thence to the *Euphrates*, which bounds it on the Eaſt.

The Parts of *Aſia Minor*, of *Anatolia*.

The Ancients divided this Great *Aſia Minor* into many leſſer Regions; of which the principal are, *viz. Pontus*, *Bithynia*, Little *Aſia Minor*; into *Lycia*, *Galatia*, *Pamphilia*, *Cappadocia*, *Cilicia*, *Caria*, *Ionia*, *Æolis*, *Lydia*, *Phrygia* Major and Minor, *Paphlagonia*, *Lycaonia*, *Piſidia*, *Armenia Minor*, *Myſia*, the Iſle of *Rhodes*, &c.

But at preſent the *Turks* do in general call this Great *Aſia Minor*, *Anatolia*, which ſignifies *Orient*: That part of *Anatolia*, which is moſt expoſed to the North, to wit, *Pontus*, *Bithynia*, *Galatia*, and *Cappadocia*, by the appellation of *Rumla*: The more Meridional parts they call *Cottomandia*, which are *Lycia*, *Pamphilia*, and *Cilicia*: The Little *Aſia Minor*, which is on the *Archipelago*, hath no other name than that of *Anatolia*.

The *Turks* diviſion of *Anatolia*.

But all theſe Names are little known amongſt them, much leſs thoſe which are attributed to the leſſer parts of *Anatolia*. The *Turks* divide it into four *Beglerbeglies*, which are as our *Lord Lieutenancies*; under which are 35 or 34 *Sangiacats*, which are as our particular Governments.

The *Beglerbeglies* are of *Anatolia*, of *Caramania*, of *Toccat*, and of *Aladuli*: The two firſt compoſe all the Weſtern part of *Anatolia*; the two laſt all the Eaſtern part. The *Beglerby* of *Anatolia*, hath under him eleven or twelve *Sangiacks*. The *Beglerby* of *Caramania* hath only ſeven or eight; he of *Toccat* likewiſe ſeven or eight; and he of *Aladuli*, five or ſix.

The Cities where the *Beglerbies* keep their reſidence, are *Cuitage* or *Cutage*, formerly *Cotyæum*, for him of *Anatolia*; *Cogna*, once *Iconium*; others put *Cæſaria*, once *Cæſaria penes Anazarbum*, for him of *Caramania*; *Amaſia*, which keeps its ancient name; and ſometimes *Trebizonde*, formerly *Trapezus*, for him of *Toccat*; and *Maraz*, for him of *Aladuli*. But to proceed to the Provinces of *Anatolia*.

The Province of *Pontus* deſcribed.

PONTUS is a Country of a large extent, and taketh up all the length of *Anatolia*, and was by the *Romans* anciently ſeparated into four parts; *viz. Polemoniacus*, *Pontus Galaticus*, *Pontus Cappadocius*, and *Metapontus*, or *Pontus* eſpecially ſo called.

POLEMONIACUS hath for its chief places, *Nixaria*, formerly *Neo-Cæſarea*, which is the Metropolis; *Zela*, enlarged by *Pompey*, and called *Megalopolis*, *Barbaniſſa*, and laſtly *Sebaſtia*, ſo called in honour of *Auguſtus*, whom

whom the *Greeks* called *Sebaſtos*; a place for ſtrength very conſiderable, and contended againſt *Tamerlane*; which was no ſooner taken by him, but (to ſatisfie his Revenge) he cauſed moſt cruelly to be buried alive in great Pits about 12000 Men, Women, and Children. Nigh to this City is Mount *Stella*, where *Pompey* gave *Mithridates* his fatal overthrow. This *Mithridates* was a great and eminent King of *Pontus*, who for 40 years withſtood the *Romans*; not more excellent in War, than in Learning and Memory, who ſpake 22 ſeveral Languages, who invented that Counter-poyſon, from him named *Mithridate*; who at laſt, by the Rebellion of his Son, and the Valour of L. *Sylla*, *Lucullus* and *Pompey*, was vanquiſhed; where *Pompey*, upon a ſmall Iſland at the entrance of the *Euxine Sea*, erected a Pillar, which at this day bears his name, and is by the Inhabitants ſhewed to Strangers, as a memorial of his Victories in theſe parts.

Here *Mithridates* had his overthrow.

In this part of *Pontus*, on the riſe and fall of the River *Thermodon*, and on the Banks thereof, the *Amazons*, a ſort of Warlike-Women were here ſaid to reſide, ſo called, either becauſe they uſed to cut off their right Breaſts, which otherwiſe would be an impediment to their ſhooting, or becauſe they uſed to live together. They were at firſt *Scythians*, and accompanied their Husbands to theſe parts, about the time of the *Scythians* firſt coming into *Aſia*, in the time of *Seſoſtris* King of *Egypt*. Theſe People held a great hand over the *Themiſcyrin*, who inhabited this Region, and the Nations round about them, and at laſt by Treachery were murthered; but their Wives being grievouſly angred (as well through Grief and Fear, as Exile and Widdow-hood) ſet upon the Conquerors, under the conduct of *Lempado* and *Marpeſia*; who not only overthrew them, but alſo much added to the largeneſs of their Dominions, and for a conſiderable time continued in great reputation. The Names of the chiefeſt of the *Amazon Queens* were, *Lampedo*, *Marpeſia*, *Ortera*, *Antiopa*, and *Pentheſilea*, who with a Troop of gallant *Virago's* came to the Aid of *Priamus* King of *Troy*: who at laſt was ſlain by *Pyrrhus*, Son to *Achilles*. Theſe *Amazons*, in matters of Copulation, uſed to go to their neighbouring Men thrice in a year; and if it happened that they brought forth Males, they ſent them to their Fathers; but if Females, then they kept them, and brought them up in the Diſcipline of War and Courage.

A ſhort account of the *Amazonian* Women, who here inhabited.

PONTUS GALATICUS is Eaſtward of *Pontus*; its chiefeſt Cities are, *viz.* 1. *Amaſia*, remarkable for the Martyrdom of *St. Theodorus*, alſo being the Birth-place of *Strabo* the famous *Geographer*, and in theſe latter times for being the reſidence of the eldeſt Sons of the *Grand Signior*, ſent hither as ſoon as circumciſed, who are not to return till the death of their Father. It is a great City, about 4 days Journey from the *Black-Sea*. 2. *Themiſcyra*, now *Favagoria*, ſeated on a large Plain near the Sea. 3. *Diopolis*, remarkable for the great Overthrow *Lucullus* gave to *Mithridates*. 4. *Sinope*, of note for being the Birth and Sepulchre of *Mithridates*. 5. *Caſtamona*, the chief City of the *Iſfendiars*, which for ſtrength and ſcituation, is by them preferred before *Sinope*.

Chief places in *Pontus Galaticus*.

PONTUS CAPADOCIUS hath for its chief places, *viz.* 1. *Geraſus*, from whence *Cherries* were firſt brought into *Italy* by *Lucullus*, after he had finiſhed his War with *Mithridates*. 2. *Pharnacia*, built by *Pharnaces* a King of *Pontus*. 3. *Trebezond*, the Metropolis of the *Comneni*, famous for the Trade of Fiſh, caught by the People on the *Euxine-ſhoars*, here ſalted, and then tranſported in great quantities to *Conſtantinople*, *Caffa*, and elſewhere. In this City did anciently reſide the Deputies of the *Grecian Emperours*, for the ſecurity of the Out-parts againſt the Incurſions of the *Perſians*; and now is the place of ſuch Gallies, as by the *Grand Signior* are appointed for the ſcouring and ſecuring their Trade on the Coaſts of the *Euxine Sea*.

Chief places in *Pontus Capadocius*.

METAPONTUS, whoſe chief places were, 1. *Flaviopolis*, ſo called in honour to *Flavius Veſpaſianus*. 2. *Claudiopolis*, in honour to *Claudius*, Emperour of *Rome*. 3. *Juliopolis*, in honour of the *Julian* Family; all which are Mid-land Towns. 4. *Dioſpolis*, of great reſort, on the *Euxine Sea*, ſo named from a Temple conſecrated to *Jupiter*. 5. *Heraclia*, a Colony of the *Phocians*,

The chief places of *Metapontus*.

Phocians, remarkable for being the Seat of a Branch of the *Imperial Family* of the *Comneni*. But above all is *Tocat*, a good fair City, built at the foot of a very high Mountain, ſpreading it ſelf round about a great Rock that is in the midſt of the Town, on the top of which is ſeated a *Caſtle*, with a good *Garriſon*. It is well inhabited by *Armenians*, *Greeks*, *Jews*, and *Turks*, who have the command thereof; its Houſes are well built, but its Streets are narrow, and amongſt its *Moſques* there is one very ſtately. Here the *Chriſtians* have 12 *Churches*, hath an *Archbiſhop*, under whom are 7 *Suffragans*. Here are two *Monaſteries* for Men, and two for Women; the greateſt part of the *Chriſtians* are Tradeſmen, and generally *Smiths*: this is the only place in all *Aſia*, where plenty of *Saffron* groweth. This City is one of the moſt remarkable Thoroughfares in the Eaſt, where are continually lodged the *Caravans* from *Perſia*, *Diarbeck*, *Conſtantinople*, *Smyrna*, *Synopus*, and other places; and here the *Caravans* turn off as they are variouſly bound. Here are excellent *Fruits* and *Wine*, and Proviſions are had at eaſie rates.

BITHYNIA hath on the North the *Euxine Sea*; a place famouſed for the Victory of *Alexander* againſt the *Perſians*; then for Mount *Stella*, where *Pompey* overthrew *Mithridates*; and *Tamberlain* with 800000 *Tartars*, encountred *Bajazet* with 500000, where 20000 loſt their lives, and *Bajazet* in the pride of his heart being taken, and penn'd up in an *Iron-Cage*, beat out his own Brains againſt the Bars. Its chief places are, 1. *Nice*, where the firſt *General Council* was held by the appointment of *Conſtantine* the Great, for the expelling of the *Arian Hereſie*. 2. *Chalcedon*, where the *4th General Council* was, to repel the *Neſtorian Hereſie*. 3. *Scutari*, oppoſite to the Haven of *Conſtantinople*, in which place the *Perſians* received their Tribute from the other Cities of theſe Parts; and laſtly, 4. *Burſa*, once the Seat of the *Ottaman* Kings in *Aſia*, till they gained *Adrianople* in *Europe*, by *Mahomet* the Firſt; now inhabited by *Turks*, *Jews*, and *Greeks*; by ſome accounted as fair, rich, and populous as *Conſtantinople*, and enjoys a great Trade. It is ſeated on the Foot of Mount *Olympus* for its defence, and is adorned with fair *Moſques*, and many *Tombs* of the *Ottoman* Princes.

The Province of *Bithynia* bounded.

Chief places in *Bithynia*.

LYCIA hath for its Southern bounds the *Mediterranean Sea*, and is environed on 3 ſides with the Mountain *Taurus*, which makes it very ſtrong: It was formerly exceeding populous, containing about 60 Cities; the greateſt part whereof remained in St. *Pauls* time, but now are reduced to ruins. The chiefeſt of which were, 1. *Mira*, the chief City of this Province. 2. *Patera*, adorned with a fair Haven, and Temples; one of which was dedicated to *Apollo*, having therein an *Oracle*, and for Wealth and Credit ſuitable to that at *Delphos*. 3. *Telmeſus*, whoſe Inhabitants are famous for interpreting of Dreams.

The Province of *Lycia* bounded, and its Cities deſcribed.

GALATIA is bounded on the Eaſt with *Cappadocia*. Towns of note; *viz.* 1. *Augoura*, ſeated on the River *Sangar*, 16 days Journey from *Conſtantinople*, famous for the *Synod* here held in the Primitive times, and is one of the greateſt and richeſt places of this quarter, furniſhing *Turky* with a great number of *Chamlets* and *Mo-hairs*. 2. *Tavium*, where there was a *Brazen Statue* of *Jupiter*, in whoſe *Temple* there was a priviledged Sanctuary. To this Province St. *Paul* did dedicate one of his Epiſtles.

The Province of *Galatia* bounded, and its chief places treated of.

PAMPHYLIA hath for its Southern bounds the *Mediterranean Sea*. The principal Cities are, 1. *Satalia*, (founded by *Ptolomy Philadelphus*, King of *Egypt*,) is the ſtrongeſt, and beſt for Traffick of all its Coaſts, communicating its name to the neighbouring Gulph, called *Golfo di Satalia*, and to the moſt Oriental part of the *Mediterranean Sea*; famous for the rich *Tapeſtries* that are here made. 2. *Side*, famous in the time of the *Gentiles* for a Temple of *Pallas*. 3. *Perge*, renowned in Old time for the Temple of *Diana*, and for the Annual Feaſts there held in honour of her; and yet more famous for St. *Pauls* Preaching here. 4. *Aſpendus*, and Inland Town, ſtrongly ſcituate, once the Metropolis of the Province, famous of old for its *Muſicians*. Theſe Provinces were converted to Chriſtianity by the Apoſtles, St. *Paul* (who Journied through moſt Cities in theſe quarters,) St. *Peter*, and St. *John*, as doth appear

The Province of *Pamphylia*, and its chief places.

appear by Holy Scripture. The Country for the moſt part is very Mountainous, which proceed from Mount *Taurus*, as branches thereof: Here are abundance of *Goats*, of whoſe Hair are made great quantities of *Grograins* and *Chamlets*, which for fineneſs are not inferiour to *Silk*, with which it ſerves other Countries, being its chief Commodity; but nearer the Sea it is more fruitful, being well watered and planted, more populous and pleaſant.

The Province of *Cappadocia* bounded.

CAPPADOCIA hath for its chief places, 1. *Mazaca*, enlarged and beautified by *Tiberius* the Emperour; and in honour to *Auguſtus Cæſar*, by him called *Cæſarea*, being the Metropolitan City of *Cappadocia*, as alſo the Epiſcopal See of St. *Baſil*. 2. *Nyſſa*, the See of *Gregory*, Surnamed *Nyſſenus*, and Brother to *Baſil*. 3. *Nazianzum*, alſo the Epiſcopal See of another *Gregory*, Surnamed *Nazianzenus*, which 3 for their admirable abilities in all kind of Learning, and for their Piety, are not to be parallel'd. 4. *Comana*, remarkable of old for its Temple conſecrated to *Bellona*, whoſe Prieſts, and other inferiour Officers of both Sexes, in the time of *Strabo* amounted to about 6000. 5. *Erzirum*, ſcituate in the Confines of *Armenia Major*, which is the Rendezvous for the *Turkiſh* Army, when they have any deſign againſt *Perſia*; at which place they are likewiſe disbanded and ſent home, being a Frontier Town. It is ſeated at the end of a large Plain, circled with Mountains; its Houſes are not very well built, but hath ſeveral great *Inns* for entertainment of Paſſengers, as at *Tocat*; and it is obſervable, that *Barly* after 40 days, and *Wheat* after 60, is fit to cut: And, 6. *Pterium*, memorable for the great Battel fought between *Cræſus* King of *Lydia*, and *Cyrus* of *Perſia*; in which *Cræſus* loſt not only the Field, but alſo his Kingdom. The Country is very rich in Mines of *Silver*, *Iron*, *Braſs*, and *Alum*; hath great plenty of *Wine*, and ſeveral ſorts of Fruits; alſo *Cryſtal*, *Jaſper*, and the *Onyx-ſtone*: But the greateſt Wealth which they have is their Horſes. The People of this Country were anciently very Vicious, and prone to all kinds of Wickedneſs; but ſince Chriſtianity was received amongſt them, their former Vices are now changed to Vertues.

The Province of *Cilicia*, and its chief places.

CILICIA hath on the South the *Mediterranean Sea*. Places of note here found are, *viz.* 1. *Tarſis*, pleaſantly ſeated, famous for the Birth-place of St. *Paul*; 2. *Anchiala*, on the Sea-ſide; both which, with ſome others, were built in one day by *Sardanapalus* King of *Aſſyria*. 3. *Epiphania*, the Birth-place of *George* the *Arian*, Biſhop of *Alexandria*. 4. *Adena*, ſeated in a fruitful Soil, abounding in *Corn* and *Wine*, defended by a ſtrong *Caſtle*. 5. *Alexandria*, built by *Alexander* the Great; and to diſtinguiſh it from *Alexandria* in *Egypt*, was named *Alexandretta*, but now *Scanderone*; a famous Haven-Town, ſerving for the Scale to *Aleppo*, which is diſtant from it about 100 *Engliſh* miles, to which all Shipping, either out of the *Ocean* or *Mediterranean*, come to lade and unlade their Goods, which are hence tranſported by *Camels* to *Aleppo*; and here the *Engliſh*, *French*, and *Venetians*, have their *Vice-Conſuls* to protect their Goods and Ships. 6. *Amavarza*, a City in the time of *Strabo*, of great antiquity. 7. *Nicopolis*, founded by *Alexander* in memory of his great Victory: And 8. *Iſſus*, ſeated on a large Bay, famous for the Battel here fought between *Alexander* (with an inconſiderable Army of *Macedonians*) and *Darius*, and his vaſt Army, which conſiſted of about 600000 *Aſſyrians*; whereof about 160000 of the *Perſians* were ſlain, and about 40000 taken Priſoners; in which Battel, the Wives and Daughters of *Darius* were taken, *Alexander* not loſing above 200 of his Men.

On the Right-hand of *Cilicia* is *Iſauria*, which may bear the name of a Province: It is fruitful in *Vines*, and ſeveral ſorts of *Fruits*, having a rich Soil. The chief Cities are, 1. *Claudiopolis*, into which *Claudius* the Emperour brought a *Roman* Colony: And, 2. *Seleucia*, founded by *Seleucus*.

The Province of *Caria* bounded, and its chief places deſcribed.

CARIA hath for its Southern bounds the *Carpathian Sea*. Its chief places are, 1. *Miletus*, not far from the Hill *Latmus*, the Birth-place of *Thales*, one of the 7 Wiſe-men of *Greece*; to this place St. *Paul* called together the Biſhops of *Epheſus* and other of the adjoyning Cities. 2. *Mindus*, which being but a ſmall City, and its Gates ſo big, made *Diogenes* the *Cynick* to cry out, to have

have them ſhut their Gates, leſt the City ſhould run out at them. 3. *Milaſa*, famous in old time for two Temples dedicated to *Jupiter*: And 4. *Borgylia*, where *Diana* alſo had a Temple.

In this Country is the Hill *Latmus*, which was the retiring place of *Endymion*, who by the ſtudy of *Aſtronomy* did there find out the Changes and Courſes of the *Moon*, by the *Poets* feigned to be her Favourite; others there be who would have it, that in a Cave under this Hill *Jupiter* hid him, and caſting him in a deep ſleep, deſcended ſometimes to kiſs him.

The Province of *Ionia* bounded, with its chiefeſt places.

IONIA, bounded on the Weſt with the *Ægean Sea*. Places of note in this Country are, 1. *Epheſus*, famous for many things; as, *Firſt*, for being the Burial-place of St. *John* the *Evangeliſt*, who (as ſome ſay) went here alive into the Grave. *Secondly*, for the Temple of *Diana*, which, for its Greatneſs, Furniture, and ſtately Workmanſhip, was accounted one of the Wonders of the World. *Thirdly*, for St. *Pauls* directing an *Epiſtle* to the Inhabitants thereof. *Fourthly*, for being the *Epiſcopal See* of *Timothy* the *Evangeliſt*, firſt Biſhop hereof: And, *Fifthly*, for its *Eccleſiaſtical Council* here; but now much ruined from its ancient beauty, it being now reduced to a ſmall *Village*. 2. *Smyrna*, which is now the only City of Trade in theſe parts; famous for being one of the 7 *Churches* of *Aſia*, to which St. *John* dedicated his *Revelation*, being one of thoſe 7 *Cities* that ſtrove for the Birth of *Homer*, where (in a Cave hard by) he is ſaid to have writ his *Poems*: But now violated by the *Mahometans*, her Beauty is turned into Deformity, her Religion into Impiety, and her knowledge into Barbariſm. This City is ſeated on the bottom of a Bay or Gulph, called the Gulph of *Smyrna*, where the *Engliſh*, *French*, and *Venetians* keep *Conſuls* to protect their Merchants, and keep up their Trade, it being under the Juriſdiction of the *Grand Signior*. 3. *Colophon*, another of thoſe Cities which ſtrove for the Birth of *Homer*: Here the People are ſo well skill'd in Horſemanſhip, that whoſe ſide ſoever they took in War, were ſure to gain the Victory. 4. *Erythra*, the habitation of one of the *Sibyls*, from whence called *Sibylla Erythræa*. 5. *Ipſus*, remarkable for the great Battel betwixt *Antigonus* and *Seleucus*, two of *Alexanders* chief Commanders, wherein *Antigonus* loſt both the day, and his life. 6. *Lebedus*, of note in ancient times for thoſe *Plays* here yearly held in honour to *Bacchus*. 7. *Priene*, the Birth-place of *Bias*, one of the 7 Wiſe-men of *Greece*: And, 8. *Claxomene*, ſeated on a ſmall *Iſle* near the ſhoar, beautified with a Temple dedicated to *Apollo*.

The Province of *Æolis*, and its chief places.

ÆOLIS, North of *Ionia*, hath for its chief places, 1. *Cuma*, the habitation of *Sibylla*, Surnamed *Cumana*. 2. *Elæa*, on the Mouth of *Caicus*, being the Port-Town to *Pergamus*. 3. *Myrina*, which in honour to *Auguſtus* is called *Sebaſtopolis*. 4. *Pitane*, not far from the *Ægean Sea*; and here they had an art in making *Bricks* that would ſwim above water.

The Province of *Lydia*, and its chief places.

LYDIA: Its chief Cities are, 1. *Sardis*, in which was one of the 7 *Churches* in *Aſia*, being the Royal Seat of *Cræſus*, and the Kings of *Lydia*, until it was ſubdued by the *Perſians*; and, 2. *Philadelphia*, on the Banks of the River *Cayſtrus*. Its People are ſaid to be the firſt Inventers of *Dice*, *Cheſs*, and other ſuch Games; as alſo the firſt *Huckſters*, *Pedlers*, and the firſt *Coyners* of *Mony*. The Country by reaſon of the great plenty of gallant Rivers renders it very fruitful and pleaſant, being enriched with Mines of *Gold* and *Silver*, as alſo *precious Stones*.

The Province of *Phrygia Major* bounded, and its chief places.

PHRYGIA MAJOR, bounded on the Eaſt with *Galatia*. The chief places are, 1. *Gordion*, the Seat of *Gordius*, which from the *Plough-tail* was taken and choſen King of this Kingdom, who tied ſuch a Knot, (called the *Gordian-knot*) which *Alexander* the Great cut in pieces, when he could not unty it. 2. *Midium*, the Seat of *Midas*, Son to this *Gordius*; who covetouſly petitioned *Bacchus*, that whatſoever he touched ſhould be turned into *Gold*; which was granted, but ſoon was forced to loſe the benefit of it, elſe he would have been ſtarved, his *Victuals* turning into *Gold*: and falling into a ſecond overſight in Judgment, in preferring *Pan's Pipe* before *Apollo's Harp*, he for his ſmall Judgment in Muſick, was rewarded with a comly pair of *Aſſes-ears*.

3. *Colossi*, to whom St. *Paul* writ one of his Epistles. 4. *Pessinus*, where the goddess *Cybele* was worshipped, being called *Dea Pessinuncia*. This City is placed in the Borders of *Galatia*. The Country is very rich, pleasant, and well watered with *Rivers*, the People being anciently more Superstitious than in any other place of *Asia*, as is manifest by the Rites used in their Sacrifices of *Cybele*, and other of their goddesses, being accounted such as use Divination. They are a People which much delight in Effeminacy. Here Reigned *Tantalus*, who wanting wisdom to make use of his great Riches, is by the *Poets* feigned to stand in *Hell* up to the chin in water, under a Tree whose Fruit doth touch his Lips, but yet cannot reach them.

The Province of *Phrygia Minor* bounded, with its chief places.

PHRYGIA MINOR, bounded on the South with the *Ægean Sea*. Places of most note, *viz.* 1. *Dardanum*, or *Dardania*, being the Town and Patrimony of *Æneas*. 2. *Troy*, seated on the Banks of the River *Scamander*, famous for having sustained a Ten years Siege against the *Greeks*; in which time the *Trojans* lost 860000 Men, and the *Grecians* 666000 Men, being then so famous a City, that it might be counted the glory of the East, from whence all Nations desire to derive their beginning; but now remaining nothing but Ruins. Four miles from which there was another City, built by *Lysimachus*, one of *Alexanders* Captains, which from other Cities there adjoyning was peopled; by him called *Alexandria*, or *Troas Alexandria*, or *New Troy*, in honour of *Alexander* the Great, who begun the Work, which though not so great, rich, and famous as the first, yet was the Metropolis of the Province; but now by the *Turks* quite ruinated, by their carrying the Stones and Pillars to *Constantinople*, for the beautifying of their *Bashaws* Houses. 3. *Sigæum*, the Port-Town to *Troy*. 4. *Assus*, called by *Pliny*, *Apollonia*, in which place the Earth will consume the Bodies of the Dead in 40 days. 5. *Lyrnessus*, opposite to the Isle of *Lesbos*, destroyed by *Achilles* and the *Greeks* in the beginning of the *Trojan* War.

The Province of *Paphlagonia*, and its Cities.

PAPHLAGONIA hath for its chief Cities, 1. *Gangra*, remarkable for a *Council* there held in the Primitive times, called *Synodus Gangrensis*. 2. *Pompeiopolis*, so called by *Pompey* the Great: And, 3. *Coniata*, or *Conica*, fortified by *Mithridates*, when he was Master of this Country.

The Province of *Lycaonia*, and its chief places.

LYCAONIA, bounded on the East with *Armenia Minor*. The most eminent places in this Country are, 1. *Iconium* (now *Cogni*) the Regal Seat of the *Aladine* Kings; a place of great strength, whose scituation is in the Mountains, advantagious for defence and safety. 2. *Lystra*, famous for the Birth-place of *Timothy*, and where *Paul* and *Barnabas* having healed a Cripple, were adored for *Mercury* and *Jupiter*: And, 3. *Derbe*, where the said Apostle preached.

The Province of *Pisidia*, and its chief places.

PISIDIA hath for its chief places, 1. *Seleucia*, built by *Seleucus*. 2. *Sagalassa*, scituate in the most fruitful part of this Country. 3. *Selge*, a Colony of the *Lacedemonians*: And, 4. *Termessus*, strongly seated. This Country was famous for the Battel fought betwixt *Cyrus* and *Artaxerxes*; where *Cyrus* lost his life, and the Victory; out of which *Xenophon* made that notable Retreat with his *Grecians*, in the despight of 20000 Men, which pursued him.

Armenia Minor, and its Cities.

ARMENIA MINOR is bounded on the East with the *Euphrates*, which separates it from *Armenia Major*. Cities of note, *viz.* 1. *Meteline*, the Metropolitan City; now called *Suur*, abounding in great quantities of *Wine* and *Oil*. 2. *Nicopolis*, built by *Pompey* in remembrance of a Victory he there obtained against the Forces of *Tygranes*, King of *Syria*. 3. *Garnasa*, a strong Town. 4. *Oromandus*; and, 5. *Arabyssus*, remarkable for the exile of St. *Chrysostom*, Patriarch of *Constantinople*, confined here by the malice of the Empress *Eudoxia*. This Country, as to its fertility, pleasantness, &c. is the same as *Cappadocia* afore-mentioned.

The Province of *Mysia*, and its chief places.

MYSIA hath for its chief places, 1. *Cyzicus*, seated in the *Propontis*, in an Island of the same name, but so near the Continent, that it is joyned to it by two Bridges. The Metropolis of the *Consular Hellespont*, a place of great strength and beauty, whose *Walls*, *Bulwarks*, *Towers*, and *Haven*, were made of Marble. 3. *Adramyttium* where *Paul* took Shipping to go to *Rome*:

And,

And, 4. *Pergamus*, seated in a goodly Plain, on the Banks of the River *Caicus*; a place of great strength, beautified with a Library of about 200000 Volumes or Manuscripts, all writ in *Parchment*; famous also for those costly Hangings known to us by *Tapestry*. Here was one of the 7 *Churches* of *Asia*, to which St. *John* writ his *Revelation*; and lastly, famous for the Birth-place of *Galen*, the eminent Physician, who lived to the Age of 140 years in good health.

Mountains in *Anatolia*, worthy of note.

The *Mountains* and *Rivers* in *Anatolia* may have somewhat in particular observed of them. Mount *Taurus* begins between *Lysia* and *Caria*, and extends it self all the length of *Asia*, being a continual Ridge of Hills, running through *Asia* from West to East; which for its length, height, and the branches it casts forth on one side and the other, the greatest and most famous Mountain in the World. On Mount *Ida*, the *Trojan Paris* judged of the Beauty of *Juno*, *Pallas*, and *Venus*, and giving the *Golden Apple* to the last, drew on himself and his Friends the enmity of the other two. On the Mountain *Tmole* in *Lydia*, *Midas*, having esteemed *Pan*'s Pipe to be more pleasant than the Harp of *Apollo*, was by him pulled by the Ears, not to make them greater, but so hard as gave occasion to the *Poets* to jeer him, and say, that he had *Asses* Ears. This Mountain is very fruitful, especially in *Vines* and *Saffron*. On *Cragus* was feigned to be the Monster *Chimera*, which *Bellerophon* made tractable. On *Latmus* in *Caria* passed the Loves of the *Moon*, and *Endymion*, &c.

Rivers.

Amongst the Rivers, *Pactolus* hath rouled down so much *Gold* in its Streams, since *Midas* washed there, that the Riches of *Cræsus*, and others, are come from thence. The *Granick* was witness of the Victory of *Alexander* the Great, against the *Satrapes* of *Darius*; but *Alexander* washing himself in the cold waters of *Cidnus*, had near lost his life. The River *Acheron*, and the Lake *Acherusia*, near *Heraclia* in *Bithynia*, are esteemed to reach to Hell; and that this way *Hercules* brought up the Villain *Gerberus*. *Halys* (at present *Lali*) served for the bounds and limits between the Kingdom of *Cræsus* and the Empire of the *Persians*; but it proved fatal to *Cræsus*, &c.

Things worthy of note in *Asia Minor*.

There are many other things observable about, and within the lesser *Asia*. The *Bosphorus* of *Thrace*, or Channel of the *Black-Sea*, or Streight of *Constantinople*, is so narrow, that *Darius Hystaspes* built a Bridge over it, and passed with his Troops over it from *Asia* into *Europe*, to make War against the *Scythians*. *Xerxes*, the Son of *Darius*, did as much over the *Hellespont* or Streight of *Gallipoli*, or the *Dardanelles*, which we call the *Castles* of *Sestos* and *Abydos*, which are seated three Leagues above the entrance, and at the narrowest place of the *Hellespont*, opposite each to other: Formerly famous for the unfortunate Loves of *Hero* and *Leander*, drowned in the merciless Surges. Here also *Xerxes*, whose populous Army drank Rivers dry, and made Mountains circumnavigable, is said to have passed over into *Greece* on a Bridge of *Boats*. *Sestos* is strongly seated on the side of a Mountain, descending to the Sea on the *European* shoar; *Abydos*, on a low Level on the *Asian* shoar. The *Amanides* Streights, or Passes of Mount *Aman*, between *Cilicia* and *Syria*, are easie to keep; the Way for about 2500 Paces, being between Rocks and Crags; the Feet of which are washed with many streams which fall off from the Mountains. Here it was that *Alexander* the Great vanquished *Darius*.

The ISLANDS about ASIA MINOR.

Islands.

THE ISLANDS about *ASIA MINOR* have been very remarkable to Antiquity, though not so at present: They are almost in the *Archipelago*; some in the *Mediterranean Sea*, almost none in the *Black Sea*; yet at the entrance into that Sea, and near the *Bosphorus* of *Thrace*, are

1. Cyanees.

1. The two Islands called *CYANEES*, so near the one to the other, that the Ancients would make us believe they joyned.

2. Lesbos.

2. *METELIN*, of old *LESBOS*, famous for the City *Meteline*, which for its greatness and excellency of its *Wines*, gives name to the Island. In this place was born *Sappho*,

the Inventreſs of the *Sapphick Verſe*: *Pittacus* one of the Sages of *Greece*; and *Arion*, the *Dolphin Harper*.

3. Scio. 3. *SCIO*, or *CHIOS*, diſtant from the *Ionian* ſhoar four Leagues, being in compaſs about 126 miles; remarkable for the Church of its Convent of *Niomene*, one of the faireſt in the World. It affordeth excellent Fruits in great plenty, but of moſt note for its *Maſtick*, not

4 Icaria. found elſewhere; it is now under the power of the *Grand Signior*. 4. *ICARIA*, now called *Niceria*, in compaſs 12 Leagues; here *Icarus* ſuffered Ship-

5. Pathmos. wreck; abounding in *Corn* and *Paſturage*. 5. *PATHMOS*, in compaſs about ten Leagues; Mountainous, but reaſonably fruitful, eſpecially in Grain. Here it was that St. *John* being baniſhed by *Domitian*, writ his Revelation to

6. Parmacuſa. the Churches of *Aſia*. 6. *PARMACUSA*, near *Miletum*, where *Cæſar*

7. Claros. was taken by them. 7. *CLAROS* or *CASAMO*, about 13 Leagues in compaſs, very Mountainous, but hath good Harbours; in former times ſacred to *Apollo*; abounding in great plenty of *Aloes*, where they are gathered and tranſported to other Countries.

8. Lero. 8. *LERO*, noted alſo for *Aloes*.

9. Coos. 9. *COOS*, ſeated in the bottom of the *Ægean Sea*, furniſhed with ſweet and pleaſant Streams, which refreſh this Iſland, and makes it very fruitful; it is in compaſs 23 Leagues, having its chief place ſo called, fortified with a ſtrong Tower, now a Garriſon of the *Turks*. This Iſland is remarkable for being the Birth-place of ſo many famous men, eſpecially *Hippocrates*, the Revivor of *Phyſick*, when almoſt decayed, unto the ancient practice of *Æſculapius*, unto whom this Iſland was conſecrated, having therein a Temple, made rich with the Offerings of thoſe that had been ſick, whoſe Cures were there Regiſtred; and

10. Scarpante. *Apelles* the famous Painter. 10. *Scarpante*, ſtored with the beſt *Coral* in the

11. Nicoſia. World. 11. *NICOSIA*, which was the Seat of the Kings of the Family of *Luſigna*, and the See of an *Archbiſhop*, and Peopled with 40000 Families.

12. Farmacuſa. 12. *FARMACUSA*, ſcituate on the Sea, much ſtronger than *Nicoſia*.

13. Bapho. 13. *BAPHO*, of old *Paphus*, famous for its Temple, dedicated to *Venus*. Mount *Olympus*, now St. *Michaels* Mount, ſtands in the middle of this Iſland.

14. Negroponte. 14. *NEGRO-PONTE*, where the Sea ebbs and flows ſeven times a day; which becauſe *Ariſtotle* could not unriddle, he here drowned himſelf; the

15. Samos. chief City is *Colchis*. 15. *SAMOS*, about 30 Leagues in compaſs, ſtrongly ſeated almoſt on all ſides with Rocks, having a fair Haven, fertil in Fruits, eſpecially in *Oil* and *Olives*; the Iſland much infected with Pirates. This is the only place in the World for *Spunges*, under whoſe Rocks they grow in the Sea; for the getting of which they have People which from their Infancy are bred up with *dry Bisket*, and other extenuating diet, to make them lean; then taking a *Spunge* wet in *Oil*, they hold it part in their Mouths and part without, and ſo they dive down into the Sea to get it; thoſe that have been uſed to this trade, can abide under water almoſt an hour together.

16. Tenedos. 16. *TENEDOS*, ſcituate at the Mouth of the *Helleſpont*, oppoſite to *Troy*, remarkable for the concealing the *Grecian* Navy, which proved the final deſtruction of *Troy*.

17. Rhodes. 17. *RHODES*, ſcituate in the *Carpathian* or *Rhodian Sea*, being in compaſs 46 Leagues; a place of great ſtrength, its Soil fertil, its Air temperate, plentiful in all things, as well for delight as profit, full of excellent Paſtures, adorned with pleaſant Trees, whoſe Leaves are all the year long in their verdure. In this Iſland the *Sun* is ſo powerful and conſtant, as it was anciently dedicated to *Phœbus*. This Iſland, as *Sandys* in his Book of Travels noteth, was held Sacred to the *Sun*, to whom they erected that vaſt *Coloſſus* of Braſs, which may well be accounted one of the Seven Wonders of the World: He

The Coloſſus. ſaith, this *Coloſſus* was in height 70 Cubits; every Finger as big as an ordinary Statue, and the Thumb too great to be fathomed. It was 12 years a making, the bigneſs was ſuch, that being erected at the entrance of the Port, Ships paſt between its Legs; but in 66 years, by an Earthquake it was thrown down and broken in pieces: And beſides the Maſs of Stones contained therein, 900 *Camels* were laden with the *Braſs*, which was uſed about it. This City bearing the name of the Iſland, is ſeated 4 miles from the ancient City famous of old for their Government, their expert Navigations, and ſince for the abode of the Knights of St. *John* of *Jeruſalem*, now in the hands of the *Turks*. This City and Iſland of

of *Rhodes*, as indeed *Tenedos*, *Samos*, and the reſt of the Iſles in this Sea, are of little or no Trade; yet they are found to produce ſeveral good Commodities: And,

18. Cyprus. 18. *CYPRUS*, which amongſt all is the greateſt, being in circuit about 183 Leagues diſtant from the *Cilician* ſhoar, about 20 Leagues it ſtretcheth it ſelf from Eaſt to Weſt, in form of a *Fleece*, and thruſting forth a great many Promontories. This Iſland, during the Empire of the *Perſians* and *Macedonians*, was accounted for Nine Kingdoms, moſt of them bearing the names of their principal Towns; but by *Ptolomy* divided into theſe 4 Provinces, *viz.* 1. *Lapethia*, 2. *Paphia*, 3. *Salamine*, and 4. *Amathuſia*. Places of moſt note are, 1. *Nicoſia*, the Metropolis of the Iſland, being a walled City, in form round, five miles in compaſs, adorned with ſtately Buildings, reſembling ſome Cities in *Florence*, as well for its beauty and pleaſant ſcituation, as for its plentifulneſs in People. 2. *Tremitus*, the Birth-place of *Spiridon*, a famous Biſhop of the Primitive times. 3. *Paphos*, ſeated near the Sea, built by *Paphos*, Son of *Pygmalion*, King of *Phœnicia* and *Cyprus*, where ſtands *Pygmalions* Statue; which (as the *Poets* feign) was by the power of *Venus* turned into a Woman; where ſhe had her ſo much celebrated *Temple*, and where her Votaries of both Sexes in their natural nakedneſs, did perform her Sacrifices. 4. *Salamis*, once the Metropolitan City in the Iſland, but now turned to Ruins; in which there was a famous *Temple* conſecrated unto *Jupiter*. 5. *Aphrodiſium*, ſo named from *Venus*, where ſhe had another Temple. 6. *Famaguſta*, though but ſmall, yet one of the chieſeſt in this Iſland, ſtrongly ſeated. 7. *Arſinoe*, famous for the Groves of *Jupiter*. 8. *Amathus*, renowned for the Annual Sacrifices made unto *Adonis*, the darling of *Venus*, where ſhe had another Temple. 9. *Epiſcopia*, where *Apollo* had both a *Temple* and a *Grove*. This *Temple* was held ſo Sacred, that thoſe which touched it were thrown into the Sea.

Provinces in Cyprus.

The ſcituation, fertility, and Commodities of Cyprus.

This Iſland is ſeated under the Fourth *Climate*, which makes the longeſt day to be but 14 hours and a half. It is exceeding rich and fertil, abounding in *Corn*, *Wine*, *Oil*, *Silks*, *Cotton*, *Turpentine*, *Wool*, *Hony*, *Salt*, *Verdigreace*, *Alum*, *Storax*, *Colloquintida*, *Laudanum*: All ſorts of *Metals*, &c.

The People of Cyprus.

To this Iſle, as to all other parts of *Turky*, no *Engliſh* are ſuffered to Trade, except thoſe of the Company of *Levant* Merchants; where they have a Factory, and a Conſul, who is generally elected by the ſaid *Levant* Company, and eſtabliſhed by the Ambaſſador. The People are very civil to Strangers, delighting in Hoſpitality, alſo addicting themſelves to War, being ſtrong and active; and the Women were in former times given to unchaſtity; by reaſon of their ſo great adoration of their goddeſs *Venus*, it being the cuſtom of theſe Women to proſtitute themſelves on the Shoars to Paſſers by; where their Virgins would do the ſame. But upon their receiving of Chriſtianity, by the Preachings of St. *Paul* and *Barnabas*, being the Birth-place of the latter, this (with other of their uncivil and barbarous Cuſtoms) were laid aſide.

Commodities in Aſia Minor.

This *ANATOLIA*, or *ASIA MINOR*, which I have hitherto treated of, is ſeated (for the moſt part) all in a healthful and temperate Air, the Soil being generally fruitful, once very populous, and repleniſhed with many fair and goodly Cities, now lamenting the loſs of about 4000, ſome of which by *Earthquakes*, but moſt by the Wars the *Turks* brought againſt them. The Commodities or Merchandizes which it abounds with, and communicates to other Nations, are chiefly excellent *Wines*, *Goats-hair*, *Camels-hair*, *Grograin Yarn*, *Silk*, *Cotton Wool*, *Cotton Yarn*, *Cloth* of a courſe make, *Coral*, *Gauls*, though not ſo good as thoſe of *Syria*, *Grograins*, *Chamlets*, *Mohairs*, *Turky-Carpets*, *Spunges*, *Turpentine* the beſt in the World; *Maſtick*, with ſome other Commodities of leſs note which the *Engliſh*, *French*, *Venetians*, and *Dutch* fetch from hence; but chiefly from *Smyrna*, it being the chief Town of Trade, being a flouriſhing Factory, where thoſe Nations (as hath been ſaid before) keep their Conſuls.

SOU-

SOURIA, or SYRIA.

Its Bounds.

SOURIA, formerly *SYRIA* the Great, and at preſent *Soriſtan* with the Eaſtern People, is near hand that which the *Romans* called their Dioceſs of the Eaſt, as may ſeem by our now calling it the *Levant*. It extends from the *Mediterranean Sea*, which waſhes its Weſtern Coaſt, to the *Euphrates*, which on the Eaſt divides it from *Diarbeck*; and from Mount *Aman*, or *Monte-Negro*, which bounds it on the North, and ſeparates it from *Cilicia* unto *Arabia* and *Egypt*, which border on its Southern parts.

Its Parts, or Diviſion by the *Turks*.

The Ancients have divided it into three principal Parts: the particular *Syria*, called *Syria Propria*, which (as the greateſt and beſt) held the name of all *Phœnicia*, and *Judæa* or *Paleſtine*: This laſt ſtretcheth more towards the South, *Syria* towards the North, and *Phœnicia* remaineth in the middle; and all are along the *Mediterranean Sea*, from *Anatolia* into *Egypt*; the particular *Syria* alone touches the *Euphrates*, the reſt upon *Arabia*. At preſent the *Turks* divide all *Syria* into two *Beglerbeglies*, *Aleppo*, and *Damaſcus*; ſome make a third of *Tripoli* of *Syria*: and give to this laſt five *Sangiacats*, nine or ten to *Damaſcus*, and ſeven to *Aleppo*; which in all are 26 or 20 *Sangiacats*, whoſe Names and Scituations are for the moſt part unknown; we will content our ſelves to ſpeak ſomething of the *Cities*, which have been, or which yet are, the principal of all theſe Quarters, beginning with thoſe of *Syria*.

SYRIA PROPRIA.

Syria Propria, its bounds, fertility, and people.

SYRIA PROPRIA is bounded on the Eaſt with the River *Euphrates*; and on the Weſt with the *Mediterranean Sea*. It is very fertil, affording plenty of excellent *Fruits*, *Cotton-Wool*, *Sheep*, which have Tails that weigh about 30 pounds, with ſeveral other good Commodities. The People were formerly very induſtrious, but much addicted to Gluttony, as did appear by their often and great Feaſting; they were ſubtle in their dealings, much given to Superſtition, being worſhippers of the goddeſs *Fortune*, and other of their *Syrian* goddeſſes, much addicted to Plays and Paſtimes, and given to Scoffing and Laughter.

Its chief places.

The chief Places in this Country are, 1. *Antioch*, or *Antiochia*, once the Metropolis of *Syria*, once ſo fair, that it held the third or fourth degree amongſt the beſt Cities of the *Roman* Empire. Its Walls are yet ſtanding, and the moſt beautiful that Eye ever beheld; within it is nothing but Ruins. Its ſcituation is on the River *Orontes*, ſo called; at preſent *Aſſi*, or *Haſer*, four Leagues from the *Mediterranean* ſhoar; a place of great ſtrength, having for its Fortification an encloſure of two ſtrong Walls, on which for their further defence were erected about 460 Towers, together with a ſtrong Caſtle. The City before its Ruins being adorned with ſtately *Palaces*, *Temples*, *&c.* fit for ſo great a City, being formerly the Seat of ſome of the *Roman* Emperours, and of the chief Officers of their Empire in the *Orient*. It was the firſt Seat of a Patriarch, that St. *Peter* eſtabliſhed, and which held in the Infancy of the Church, 1. The Dioceſſes of *Thrace*, *Aſia*, *Pontus*, and the Eaſt. 2. *Daphne*, about five miles from *Antioch*, ſo named from *Daphne*, one of the Miſtreſſes of *Apollo*, who was here worſhipped, famous for having here his *Oracle* and *Grove*, which was about 10 miles in compaſs, all encompaſſed with *Cypreſſes* and other Trees, ſo tall and cloſe together, that the Beams of the *Sun* could not dart through, though in his greateſt power; watered with pleaſant Streams, beautified with Fountains, and enriched with abundance of Trees, which yield variety of excellent Fruits, as well for taſt as tincture; for its Temples dedicated to *Apollo*; for its *Sanctuary* or *Aſyle*, and for the place where *Daphne* was changed into a *Laurel*, that it hath been compared with the

the Valley of *Tempe* in *Theſſaly*. 3. *Aleppo*, built upon four Hills, at preſent is the greateſt and principal Town of all *Syria*, and one of the moſt famous of the Eaſt, being the ancient *Hierapolis*, having large Suburbs, which are for the moſt part taken up by *Chriſtians*. It is ſeated between the *Euphrates* and the *Mediterranean Sea*, and in that place where that *Sea* and the *Euphrates* make the neareſt conjunction, which makes it capable of the beſt and greateſt commerce of the World, to wit, of all the *Levant*, with the Weſt, by the paſſage of the Gulph of *Ormus* and *Balſora*, which brings Commodities up the *Euphrates*, juſt againſt the City of *Aleppo*; from whence the *Caravans* bring them by Land to *Aleppo*, and carry them from thence to *Alexandretta* or *Scanderoon*, ſcituate on the *Mediterranean Sea*; and thence into the parts of *Aſia*, *Africa*, and *Europe*, which border upon the *Mediterranean*, and farther into that Ocean. This City is the ordinary reſidence of a *Turkiſh Baſſa*, who commands all the Country from *Alexandretta* to the *Euphrates*. 4. *Aman*, or *Ama*, ſeated between *Tripoli* and *Aleppo*, in the midſt of a great Plain, encompaſſed on all ſides with very pleaſant Hills, abounding in *Grains*, *Wines*, with abundance of Orchards, ſtored with varieties of *Fruits* and *Palm-Trees*. It is almoſt encompaſſed with the River *Orontes*, and with a great Lake; the Gardens are watered with many Channels, drawn from the Rivers; there are very excellent Paſtures, ſo that *Seleucus Nicanor* there fed 500 *Elephants*, 30000 *Horſes*, and a great part of his Militia. And to this day this City is the beſt peopled of all *Syria*, next to *Aleppo* and *Damaſcus*. 5. *Emſa*, or *Hemz*, ſeated in the ſpacious and fruitful Plain of *Apamene*, watered with many pleaſant Streams, which, for its Scituation, is almoſt the ſame with that of *Aman*; and becauſe the *Arabes* call it *Hamſi*, and that name comes ſomewhat near to *Hus*, ſome Authors will have it to be the Country of the Patient *Job*. 6. *Aradus*, ſeated in a Rocky Iſland of a mile in compaſs, juſt oppoſite to the Mouth of the River *Eleutherus*, which from the Continent is diſtant not above a League. 7. *Seleucus*, ſo called from him, as being the Founder of it, who was eſteemed the greateſt Builder in the World, founding 9 Cities of this Name, 16 in memory of his Father *Antiochus*, ſix bearing the name of his Mother *Laodice*, and three in remembrance of his firſt Wife *Apamia*; beſides ſeveral others worthy of note in *Greece* and *Aſia*, either repaired, beautified, or built by him. 8. *Laodicea*, built by *Seleucus* (as aforeſaid) abounding in excellent *Wine*, and choice *Fruits*. 9. *Lariſſa*, now *Laris*, ſeated four Leagues Southwards of *Laodicea*, much noted in the Stories of the *Holy Wars*. 10. *Hierapolis*, a City of great note in Ancient times for their Idolatry, in adoring and worſhipping the *Syrian* goddeſs. The Temple was built by *Stratonice*, wife to *Seleucus*, in the midſt of the City, encompaſſed with a double Wall about 300 Fathom in height, the Roof thereof inlaid with *Gold*, and built with ſuch ſweet Wood, that the Cloaths of thoſe which came thither were as it were perfumed. Without the Temple were places for the keeping of their *Oxen*, and other of their Beaſts for Sacrifice; as alſo a Lake of about 200 Fathom in depth, for the preſervation of their ſacred Fiſhes. The Prieſts, beſides other ſubſervient Miniſters, which here attended, were about 300 in number. 11. *Zeugma*, ſeated on the Banks of the *Euphrates*. Here it was that *Alexander* the Great, with his Army, paſſed over on a Bridge of Boats. 12. *Heraclea*, nigh to which *Minerva* had a Temple, where, for a Sacrifice, they uſed once a year to offer a Virgin, which afterwards was changed to a *Hart*. 13. *Samoſat*, ſeated near the Banks of the *Euphrates*, over which there was a Bridge which ſerved for a paſſage to *Meſopotamia*. In this City was born *Paulus Samoſatenus*, Patriarch of *Antioch*, who, for his teaching that our Saviour was not the Son of God, was (in a Council here held) condemned of Hereſie. 14. *Palmyre*, at preſent *Faid*, ſeated in a Deſart and Sandy Plain, was built by *Solomon* in the *Wilderneſs*, where one their Kings *Odenat*, and his wife *Zenobia*, have been well known for their Victories, divers times gained againſt the *Parthians*; and for endeavouring to gain the Empire of the Eaſt. 15. *Reſapha*, a Town of great note in the Holy Scripture: And, 16. *Adida*, memorable for the Victory that *Aretas*, K. of *Arabia*, obtained againſt *Alexander*, K. of *Jewry*.

PHOE-

PHOENICIA.

Phœnicia bounded, and its Cities, &c. described.

PHOENICIA hath for its Eastern and Southern Bounds, *Palestine*; for its Western, the *Mediterranean Sea*; and for its Northern, *Syria Propria*. This Country was adorned with several great and beautiful Cities, though of no great extent: For the most part seated on the Sea-shoar, which makes it much frequented by Merchants, there being several good Commodities found therein, as *Corn*, *Oil*, *Hony*, excellent *Balm*, &c. The People were here held to be very ingenious and active. Places of most note are, 1. *Tyre*, at present *Sor* or *Sour*, seated in a Plain so advantagious, (that is, on a Rock almost quite encompassed with the Sea) that it oft disputed the Priority with *Sidon*, and in the end gained it. *Nebuchadonozor* ruined it after a Siege of 14 years; then *Alexander* the Great, after a Siege of 7 or 8 months. It was many times restored to its power and splendor, by means of its *Purple*, and of its Trade; and when it was in its glory, it might be said, That if only its scituation were considered, it was a *Fortress*; if its Traffick, a *Mart*; if its Magnificence, a *Royal-Court*; and if its Riches, the *Treasure* of the Universe. The Cities of *Carthage*, *Utica*, *Leptis*, and others in *Africa*, and of *Cadiz* in *Spain*, without the *Streights* were its Colonies. And some have adventured to say, *America* was peopled by them. Its Haven is likewise the best of all *Phœnicia*, and the *Levant*. 2. *Sidon*, at present *Sayd*, and sometimes *Sayette*, hath been much esteemed in the Ancientest of times: It was built, or at least took its name from *Sidon*, the eldest Son of the Children of *Canaan*, scituate upon a Rock along the Coast of the Sea, and with a fair Port. The Neighbouring Champain is very fertil, and watered with divers Streams which descend from *Libanus*, with which they watered and enriched their pleasant Orchards. It hath been very famous for Arts and Sciences, and particularly for being the first Authors of *Arithmetick* and *Astronomy*; The first Inventers of *Letters*; the first Navigators and Builders of *Ships*; the first Inventers of *Glasses*; and the first that exercised *Arms*. From hence it was that *Solomon* and *Zorobabel* had their principal Workmen, both for *Stone* and *Timber*, which were employed in the building of the *Temple*. It hath Peopled divers Colonies; among others, *Thebes* in *Bœotia*. The *Persians* were the first that ruin'd it, after them others, and at last the *Turks*; who at present are Masters of it, as also of *Tyre*. The present *Sidon* is built somewhat West of the Old; but of small note in respect to the splendor of the Old, yet still hath some Trade. The chief Commodities being *Corn*, *Galls*, *Wools*, *Cottons*, *Cotton-Yarn*, *white Silk*, and *Wax*. 3. *Damascus*, called by those of the Country *Schami*, seated in a very fruitful Plain, and begirt about with curious and odoriferous Gardens and Orchards, which abound in all sorts of pleasant and delightful Fruits; watered with the River *Chrysorrhous*, which sendeth forth many Rivulets; by which the whole City is so well furnished, that not only most Houses have their Fountains; but also their Gardens and Orchards receive the benefit of the cool Streams, which gently glide through them: The whole Country round about being enriched with plenty of excellent *Vines*, which beareth *Grapes* all the year long; as also great plenty of *Wheat*. A place so surfeiting of Delights, that the vile Impostor *Mahomet* would never enter into it, lest by the ravishing Pleasures of this place, he should forget the business he was sent about, and make this his Paradise. This City is famous, first, for her Founders, who were *Abrahams* Servants; next for the Temple of *Zacharias*, which was garnished with 40 stately *Porches*, and adorned with about 9000 *Lamborns* of *Gold* and *Silver*; and last of all, for the Conversion of St. *Paul*, who here first preached the Gospel; for which he was forced to make his escape out of the House, being let down the Walls in a *Basket*. *Josephus* believeth that it was built by *Us*, the Son of *Abraham*, Grandchild to *Noah*: However it were, after *Tyre* and *Sidon* began to decay, this began to be in some repute, and hath been esteemed the

The fertility of the Country.

the chief City of *Phœnicia*, and sometimes of all *Syria*. It is beyond Mount *Libanus*, in respect to *Tyre* and *Sidon*; seated in a Soil so fertil and delightful, by reason of the Rivers and Fountains, that in Holy Scripture it is called a *famous City*, a *City of Joy*, a *House of Delight* and *Pleasure*; and some Authors call it *the Paradise of the World*. Yet hath it felt very great changes, as well as *Tyre* and *Sidon*: It hath been taken, retaken, ruined, and re-established divers times, by the *Assyrians*, *Babylonians*, *Persians*, *Macedonians*, *Romans*, *Parthians*, *Sarucens*, *Tartars*, by the *Soldans* of *Egypt*, and in fine, by the *Turks*, in whose hands it is at present, very flourishing and rich. The Houses of private persons are not so fair without as within; the publick Buildings are very beautiful; the *Castle* is in the middle of the City, built by a *Florentine*. 4. *Serepta*, seated on the Sea-Coast betwixt *Tyre* and *Sidon*, memorable in Holy Scripture for the Prophet *Elijah*, in raising from death the poor Widows Son. Here is found excellent *Wines*, accounted as good as those of *Grece*. 5. *Acre*, of old *Acon*, and *Ptolemais*, is bounded with the Sea on two sides; the third is joyned to a Plain of the Continent. The City is very strong, being walled with a double Wall, fortified throughout on the out-side with Towers and Bulwarks, and in the middle of the City a strong *Castle*, on the top of which there was every Night set Lights, which served to direct *Ships* at Sea to their Port. The Plain is fertil and well watered with Streams, which descend from the Neighbouring Mountains. The *Christians* took, lost, and retook this place divers times, when they made War into the *Holy Land*; in which, none more famous than *Richard* the First, and *Edward* the First, both Kings of *England*. The same did likewise the *Saracens*; the *Soldans* of *Egypt* ruined it, and after re-built it; and at present it remains in the hands of the *Turks*. 6. *Tripoli* of *Syria*, (for distinction from *Tripoli* of *Barbary*) seated in a rich Plain, is at this day by some esteemed the Metropolis of *Phœnicia*, though it hath three times more Ruins than whole Houses; and seated about two miles from the Sea, but not above half a mile from its Haven, which formerly served for a Port to *Aleppo*, but since removed to *Alexandretta* or *Scanderone*: But yet a place of some small Trade, affording *Corn*, *Cotton-Wool*, *Yarn*, *Silk*, some *Drugs*, *Pot-Ashes*, and other Commodities. The Buildings are generally low, and the Streets narrow, excepting those which lead towards *Aleppo*, which are fair and broad; having many pleasant Gardens, which are watered with delightful Streams, in which Gardens they keep great quantities of *Silk-Worms*. The Soil is excellent good, if it were well tilled; but the Air is unhealthful. 7. *Biblus*, now *Gibbeleth*, was the habitation of *Ciniras*, the Father of *Myrrha*, Mother to the fair *Adonis*; from whence the neighbouring River took its name, remarkable in the infancy of *Christianity*, for being the See of a *Bishop*; but now by the *Turks* made desolate. And, 8. *Barutt*, or *Beryte*, a place formerly of great Trade, but now of great concourse, and much frequented by Merchants, and others; it being the Road for all those *Caravans* that travel from *Aleppo*, *Damascus*, and *Jerusalem*; to *Cairo*, and *Mecca*. It is subject to the *Grand Signior*. Near to this Town is that noted Valley, where (as some Authors say) St. *George* by killing the *Dragon*, which had his abode in a Cave here, redeemed the Kings Daughter, which was to be delivered to his fury.

PALESTINE.

Palestine bounded.

PALESTINE, formerly called *Judæa*, *Canaan*, or the *Holy Land*, is bounded on the East with Mount *Hermon*, so much spoken of in Holy Scripture; on the South, with part of *Arabia Petræa*; on the West, with the *Mediterranean Sea*, and part of *Phœnicia*; and on the North, with the *Anti-Libanus*, which separates it from *Syria* and the rest of *Phœnicia*. Its scituation is between the Third and Fourth *Climates*, which makes the longest day to be 14 hours and a quarter. So populous, that before the coming in of the *Israelites*, they had 30 Kings; and afterwards *David* numbred 1300000

Fighting men, besides those of the Tribe of *Benjamin* and *Levi*. This last and most Meridional part of *Syria*, which we call *Palestine*, first received the name of the Land of *Canaan*, because the Children of *Canaan* first seised it, and parted it amongst them; when God had promised it to *Abraham* and his Posterity, it was called the *Land* of *Promise*; but when it fell into the hands of the *Hebrews*, after their return from *Egypt*, and that they had divided it by Tribes, it took the name of the *Land of the Hebrews*, under which it was governed by *Prophets*, *Judges*, and *Kings*; but under these Kings it was soon divided into two Realms, which they called *Judah* and *Israel*. Under the *Romans* it was only known by the name of *Judea*, or *Palestine*: of *Judea*, because that the Tribe of *Judah* was always the most powerful of the Twelve; and the Kingdom of *Judah* the most noble, and preserved it self longer than that of *Israel*: of *Palestina*, because the *Philistines*, which possessed a part of the Maritim Coast of *Judea*, were powerful, and very well known to Strangers. After the death of our Saviour *Jesus Christ*, all this Country was called the *Holy Land*. The People which anciently possest this Country were the *Jews*, being of a middle stature, strong of body, of a black complexion, goggle-ey'd, a subtle and ingenious people, and such as will live in any place, much given to Traffick, Usury, and Brokage; not lending without Pledges, and taking the forfeitures of them. Their Law or Religion was given them by God the Father, which, with the several Ceremonies and Rites, &c. prescribed to them, may be found in the five first Books of *Moses*; their *Synagogues* are neither fair within nor without, save only adorned with a Curtain at the upper end, together with several Lamps, and in the midst is placed a Scaffold in form of a Reading-Desk, for their Priest which readeth their Law, and sings their Liturgy; they read in a strange tone, and sing as bad: during the time of their Service, their heads are veiled with Linnen fringed with Knots, answerable to the number of their Laws, and observing a continual motion of their body to and fro, and often jumping up, which they account for great zeal in their devotion; they observe much reverence to all the names of God, but especially to *Jehovah*, insomuch that they do never use it in vain talk. Their ancient Language was *Hebrew*; they keep their Sabbath on *Saturday*, in which they are very strict; they marry their Daughters at the Age of 12 years, as not affecting a single life. This Country is so fertil in all things, that it was termed a *Land flowing with Milk and Hony*; adorned with pleasant Mountains and luxurious Valleys, enriched with pleasant Streams, and where the Inhabitants are neither scorched with Heats, nor pinched with Colds. To speak of all the memorable transactions that have happen'd in this Country would require a Volume by it self; I shall only run over some of the chief, and then proceed to the description of some of the Cities and Places of most note that are found therein. It is famous for bringing our Saviour *Jesus Christ* into the World, where he wrought so many Miracles; but infamous for their horrid action of crucifying him, the Lord of Life. Here it was that the Lord appeared to *Jacob*; here, out of the Plains of *Moab*, the Ark was built of *Sittim* Wood; here, on Mount *Tabor*, Christ was transfigured; on Mount *Moriah*, *Isaac* was to be sacrificed; on Mount *Sion* was the Tower of *David*; on Mount *Calvary*, as some aver, was the Burial-place of *Adam*, our Forefather. Here, over the Brook *Kedron*, *David* passed in his flight from *Absalom*; over which our *Saviour*, when he went to his Passion, passed: Here runneth the River of *Jordan*, sufficiently famous; nigh to which stood the Cities of *Sodom* and *Gomorrha*: Here, at a place called *Endor*, *Saul* consulted with a Witch; near to *Sichem*, *Jacob* had his Wells: Here, at *Asdod*, in the Temple of *Dagon*, the Ark of the Lord was brought, when taken; upon the entrance of which their Idol fell down: Here, at *Hebron*, is the Plain of *Mamre*, where *Abraham*, sitting in his Tent, was visited by God from Heaven in the likeness of a Man; this City he bought for a Burial-place, for him and his Posterity, where *Sarah* his Wife was first interr'd: And on Mount *Seir* was the habitation of *Esau*, after his departure from *Canaan*. I shall cease to trouble the Reader with the mentioning of many more remarkable Passages which were here transacted, but

A description of the *Jews*, and their Religion.

The fertility of the Country.

Memorable Transactions in this Country.

but only refer them to the Books of the Old and New Testament, where they shall find them recorded; also great satisfaction may be received from *Josephus*, a Book of good repute.

This Country is at present possessed by the *Turks*, as Masters of it, but inhabited by *Moors*, *Arabians*, *Greeks*, *Turks*, *Jews*, nay, I may say with People of all Nations and Religions; But setting aside matters of History, let us proceed to say something of the principal places found herein, and first with *Jerusalem*.

Jerusalem is so well known in the Holy Scriptures, that we must confess it hath been not only one of the greatest, but one of the fairest Cities in the World, being called the *City of the Lord*. Its *Kings*, *High-Priests*, *Temple*, and *Royal Palaces*, have made it famous even amongst the remotest people; Its circuit was once 50 Furlongs, which are only 6250 Geometrical Paces, but so well builded, that it was capable of the receiving of 150000 Families. Its *Temple* and *Palaces*, especially those of *Solomon*, were the fairest, greatest, and most magnificent which ever eye beheld: Its *Gates*, *Walls*, *Towers*, *Ditches*, cut out of the Rock; and its scituation in the Mountains made it seem impregnable. This City, once sacred and glorious, elected by God for his Seat, placing it in the midst of Nations, like a Diadem, crowning the head of the Mountains, the Theater of *Mysteries* and *Miracles*, was once the glory of the World; but its Pride, and other horrid Sins in the end lost it divers times. *Nebuchadonozor* was the first that ruin'd it; *Pompey* contented himself to dismantle it of its Walls, and to fill up the Ditches; *Vespasian* and *Titus Cæsar* utterly razed it, and destroyed in the place 1100000 People that were assembled to the *Pass-over*; *Adrian* ruined likewise some Towers and Walls, which had been left to lodge the *Roman* Garrison; and after caused a new City to be built, partly on its ancient Ruins, and partly without them. But with the divers changes it hath since fallen under, its beauty and magnificence is quite decayed: Yet is it not so lost, but that there are several Places yet remaining worthy of note, together with several others that were since built; as on Mount *Calvary*, where *Christ* the *Saviour of the World* was Crucified, there is a rich, magnificent and large Temple, built by the vertuous *Helena*, Daughter to *Coilus*, a *British* King, and Mother to *Constantine* the Great, which not only possesseth the Mount, but also all the Garden below, where his Sepulchre was; and in this Temple there are several rich Structures, as one where *Christ* was imprisoned before his *Crucifixion*, another where *Christ* was nailed to the *Cross*, another where he was *Crucified*; also one where the *Sepulchre* was, the *Altar* of the *Holy Cross*, the *Altar* of the *Scourging*, the *Chapel* of the *Apparition*, the *Chapel* of the *Angels*, the *Chapel* of the division of his *Garments*, the *Chapel* of St. *Helena*, who built this Temple, the *Chapel* of St. *John*, the *Sepulchre* of *Joseph* of *Arimathea* under ground; together with several others, too long to recite. To this place there is a great resort, as well of *Protestants* as *Papists*, though for sundry ends, which brings a great Revenue; none being permitted to enter without paying some Mony, which the *Jews* here inhabiting do Farm of the *Grand Signior* at a large yearly Revenue, and so become Masters thereof, making a great profit by shewing them to Strangers, which come hither from all Nations. Several other places are yet remaining, as the *Castle* of the *Pisans*, the *Monastery* of the *Franciscans*, the *Church* of St. *James*; the *Church* of St. *Mark*, where once stood his House; a *Mosque*, where stood the House of *Zebedæus*; a *Chapel*, where stood the House of St. *Thomas*; the *Church* of the *Angels*, where the *Palace* of *Annas* the *High-Priest* stood; the Church of St. *Saviour*, where the Palace of *Caiphas* stood; the *Court* of *Solomons* Temple, yet remaining; but in the room of the *Temple* a *Mosque*.

Jerusalem's chief Places.

Near about *Jerusalem* there are several places of note yet remaining, as in the way between *Jerusalem* and the City of *Bethlem*, there are the Ruins of *Davids Tower*, the *Tower* of *Simeon*, *Bathsheba's Fountain*, the *Cistern* of *Saget*, the *Monastery* of *Elias*, *Jacobs House*, the *Sepulchre* of *Rachel*, the *Cistern* of *David*, the *House* of *Joseph*, the *Monastery* of *Bethlem*, the *Monastery*

naſtery of the *Holy Croſs*. And at *Bethlehem*, over the place where *Chriſt* was born, the vertuous *Helena* erected alſo another fair and goodly *Temple*, which is poſſeſt by the *Franciſcans* of *Jeruſalem*, being called by the name of *St. Maries* of *Bethlehem*. Nigh to *Jeruſalem* is the Deſart of St. *John Baptiſt*, where is yet the Ruins of a *Monaſtery* over his *Cave*, and the *Fountain*; as alſo the *Mountains* of *Judah*, where is the *Church* of *St. John Baptiſt*, the *Fountain*, and the *Houſe* of *Elizabeth*, alſo the *Sepulchre* of *Zachary*, a part of the *Pillar* of *Abſalon*, and the *Cave* of *St. James*. At *Bethania*, two miles from *Jeruſalem*, is the *Houſe* of *Simon* the *Leper*, the *Houſe* of *Lazarus*, as alſo his *Sepulchre*, where is the Mount of *Olives*, where is the *Sepulchre* of the *Virgin Mary*, where *Chriſt* was often, and from whence he aſcended up into Heaven.

Joppa, or *Jaffa*, ſerves for a Port to *Jeruſalem*, from which it is 10 miles diſtant; and it was thither that the *Wood* and *Stones*, taken from Mount *Libanus*, and deſtined to the building of the Temple of *Solomon*, were brought by Water, and from thence by Land to *Jeruſalem*. This is the Port where *Jonah* embarked to flie from the face of the Lord. From this Hiſtory the Heathens made the Fable of *Andromeda*, and pretended to ſhew in the Rock, which is before the Port, the marks of the Irons, to which *Andromeda* was chained, and expoſed to the *Sea-Monſter*.

After *Jeruſalem* there reſts yet *Gaza*, now *Gazere*, greater and better inhabited than *Jeruſalem*. 1. *Jericho*, ſeated on the River *Jordan*, about 30 miles diſtant from *Jeruſalem*. a City once of great fame, being in the time of *Chriſtianity* an *Epiſcopal See*; alſo noted for her beautiful *Palms*, but eſpecially for her *Balſamum*; but now turned to Ruins, in the place whereof ſtands a few poor Cottages, inhabited by the *Arabians*. 2. *Samaria*, once the Seat of the Kings of *Iſrael*, hath now nothing left but the Ruins of ſome proud Buildings. And, 3. *Sichem*, now *Naplouſe*, hath ſome *Samaritans*, and remains the Capital of that Quarter, and the beſt inhabited, but with many Ruins; and to ſpeak truth, there is now ſcarce any place of mark in all the *Holy Land*; whereas under the *Cananites*, under the *Hebrews*, under the *Jews*, there were ſo many *People*, ſo many *Kings*, ſo many *Cities*, ſo rich, and ſo powerful, that throughout the whole Continent of the Earth there was no Country might compare with it. *Jeruſalem* is at preſent governed by a *Baſſa*, and *Naplouſe* by another, which obey the *Beglerby* of *Damaſcus*.

DIARBECK.

Diarbick, and its Parts.

DIARBECK, taken particularly, anſwers only to *Meſopotamia*, which is but part of the ancient *Aſſyria*; taken in general, it anſwers to the three parts of that *Aſſyria*, of which the particular *Aſſyria* is now called *Arzerum*, *Meſopotamia*, *Diarbeck*, and *Chaldea* or *Babylonia*, or *Terack*. The firſt is the moſt *Oriental*, and almoſt all beyond the *Tygris*; the ſecond the moſt *Occidental*, and is between the *Euphrates* and the *Tygris*; the third the moſt *Meridional*, and lies on both ſides the *Tygris*.

Its fertility and People.

This Country of *Chaldea*, now *Terack*, is for the moſt part exceeding fruitful, yielding ordinarily 200 fold, the blades of their *Wheat* and *Barly* being about four fingers broad, having yearly two Harveſts. The People anciently were much given to *Divinations*, *South-ſayings*, and *Idolatry*. Places of moſt note are,

Its chief places.

1. *Babylon*, formerly *Babel*, the ancienteſt City in the World, ſeated on the Bank of the *Euphrates*, firſt built by *Nimrod*, and much enlarged and beautified by *Nebuchadnezzar*; ſo that it was accounted one of the nine Wonders of the World. This City was ſo vaſt, that its Walls ſtretcht in circumference 365 Furlongs, in height 66 Yards, and in breadth 25, ſcituate on both ſides of the *Euphrates*, which alſo ran through the City, emptying it ſelf into divers *Rivolets*; over this River *Euphrates* there was a ſtately Bridge, at each end of which there was a ſumptuos *Palace*, beautified alſo with the Temple

Temple of the Idol *Bell*, the whole City being adorned with fair Buildings, ſtately *Palaces*, and *Temples*, with a number of fair and large Streets, famous for its Tower of *Babel*, which exalted it ſelf 5164 Paces in height, which is ſomething above 5 miles, having its baſis or circumference equal to its height. A City once eſteemed the Miſtreſs of the World, and ſo rich, that it is ſaid, that *Alexander* at his taking it found treaſured up 200000 Talents of *Gold*, (a Talent of our Money being eſteemed at 4500 Pounds) a vaſt Treaſure; but the ſins of the People drew the wrath of God upon it; and by reaſon of its Invaſions by the *Medes*, *Perſians*, and *Macedonians*, who ſubdued it, ſo ruined, that it ſoon loſt its priſtine glory and magnificence, being reduced to Ruins; out of which was raiſed a new City called *Bagdad*, ſo named from its many *Gardens* therein contained, but not to compare to the old *Babylon*, neither in largeneſs nor glory, being not above 7 miles in compaſs, but yet remains to this day a place of great Trade; between which and *Aleppo* are found many *Caravans* to travel with many thouſand *Camels* laden with rich Commodities brought from *India*, and elſewhere, abounding with the ſame Commodities as *Aleppo* doth. At this place they make uſe alſo of *Pigeons*, as they do at *Alexandretta* and *Aleppo*, which ſerve inſtead of *Poſts*, which, when occaſion ſerveth, as upon the arrival of *Ships*, *Caravans*, or the like, they take theſe *Pigeons* and tie an Advertiſement (which they write in a little piece of Paper) about their Necks, which done, they carry the *Pigeon* to a high place, and toſs it up, and immediately it flieth to the other place to which it is deſigned, which gives notice to them. The Palaces in this City moſt worthy of note are, the *Moſque*, a large and rich Structure, built of *Free-ſtone*, reſembling *Marble*, in form orbicular; then the *Sultans Palace* adjoyning to the *Buzzar*, or great Market-place, is a rich, large, but low Fabrick; next the *Bridge*, whoſe paſſage is over Boats, which are chained together, which, upon occaſion may be ſeparated, having reſemblance to that of *Roan* in *Normandy*; and laſtly, its *Coho-houſes*, which are Houſes of Good-fellowſhip, being in the nature of *Coffee-houſes* with us, which in this place are many, to which a great reſort of People cometh to ſip *Coffee*, which by them is highly eſteemed, as indeed by moſt People in theſe Regions. 3. *Balſera*, the Port-Town to *Bagdad*, ſeated near the place where *Tygris* loſes it ſelf in the *Perſian Gulph*; which is likewiſe called the *Gulph* of *Balſora* and *Ormus*. This City is ſaid to have 10000 *Houſes*, and anſwers to the ancient *Teredon*. 4. *Couſa*, was ſometime the Seat of the *Califfs*, and near it was *Ali* interr'd; whence it hath likewiſe been called *Maſad-Ali*, or *Merat-Ali*, the Houſe of *Ali*; and there is always a Horſe kept ready to mount *Mahomet Mahadin*, the Son of *Almanſor*, the Son of *Ocem*, the Son of *Ali*, when he ſhall come to convert the whole World to the Law of *Mahomet*; for this Converſion is to begin at *Couſa*: but they hitherto have had, and may for the future have time enough to curry their Horſe, expecting the coming of their *Cavalier*. 5. *Orchoe*, now ſo called, is the *Urchoa* of *Ptolomy*, and *Ur*, the place of *Abrahams* Nativity. 6. *Borſippa*, by *Ptolomy* called *Barſita*, famous for the great Victory which *Cyrus*, the firſt *Perſian* Monarch, here obtained againſt *Nabonius* King of *Babylon*. 7. *Cteſiphon*, ſeated on the *Tygris*; And, 8. *Sipparum*, noted for the great Trench made near it, which was made to receive the overflowings of the *Euphrates*, which was in compaſs 160 miles, and in depth 20 Fathoms, which was made to preſerve the City of *Babylon* from overflowings.

Babylon, now called Bagdad.

Bagdad and *Balſera* have each their *Beglerbies*, and many *Sangiacs*; but to ſpeak truth, ſometime the *Turk*, ſometime the *Perſian* poſſeſſes theſe Quarters; the laſt took *Bagdad* in the year 1624, which the *Turks* regained in 1638. Fame now ſpeaks it the *Perſians*.

MESO-

MESOPOTAMIA.

Mesopotamia bounded, and its fertility.

MESOPOTAMIA, bounded on the West with the *Euphrates*. The Southern part of this Country is very barren and full of *Desarts*, scarce affording any Herbage, nor hardly so much as Trees. But as this part is so much deficient, that towards the North hath as great plenty, which makes amends, abounding with great store of *Corn* and *Wine*, together with all such necessaries as are required for the life of man. Places of most note are, 1. *Rohai*, or *Orpha*, which is the ancient *Edesse*, being 10 miles in circuit, scituate on the River *Scirtas*, which passes through the midst of it, not far from the *Euphrates* into which it falls. 2. *Caraemid*, anciently *Amida*, seated near the *Tygris*, encompassed with a strong Wall, a Frontier Town of great strength, being much desired by the *Persians*; now the chief Seat of the *Bassa*, which governs this Country for the *Turk*, where the Patriarch of the *Jacobite Christians* also had his residence. 3. *Merdin*, not above 4 or 5 miles in circuit, but is very strongly seated on a high Mountain, and having a *Castle* of about a mile in circumference; not far from which, in the Monastery of *Saphran*, is the *Patriarchal See* of the *Jacobite Sectaries*. 4. *Asanchif*, esteemed the Metropolis of the Country, yet not being of above 4 or 5 miles compass, but hath four great Suburbs well filled with Inhabitants. 5. *Carra*, where *Crassus* and the *Romans* were defeated, is now called *Herren*, or *Harran*, the City to which *Abraham* did remove when he went towards *Canaan*; remarkable in former times for its famous Temple, dedicated to the *Moon*, which was here worshipped under both Sexes. 6. *Sumiscasack*, not far from *Edesse*, hath its Castle seated very advantagiously. The Castle of *Corna*, that is pointed, is one of the most important places the *Turks* possess in all these quarters, being built above the place where the *Tygris* and *Euphrates* meet, to keep in awe both these Rivers: And, 7. *Virta*, by some Authors supposed to have been built by *Alexander* the Great, encompassed with Walls, and fortified with Towers and Bulwarks, that it was in a manner impregnable.

Its chief Places.

ASSYRIA.

Assyria bounded.

Its People, and their Customs, &c.

ASSYRIA, particularly so called, hath for its Western limits *Mesopotamia*, and is called at this day, *Arzerum*. A Country very fruitful, seated in a Plain, and watered with several good Rivers; the People were anciently much addicted to Martial affairs, yet very demure in their Habit and Behaviour, not going out of their Doors without first being perfumed, adorned with *Rings* on their Fingers, and a *Sceptre* in their Hands; they were much given to *Bathing*, and especially after Copulation. In their *Nuptial Ceremonies*, they never see the Woman until they are married; but when they hear a good Report of a Maiden, being such as liketh them, they go to her Parents, and with them agree; which done, on an appointed time they meet in the Church, in such a part of it as is deligned for that use, where there is a Partition with a Hole in it: on one side the *Bridegroom* and his Friends stand, and on the other the *Bride* and her Friends; then the *Cassise* or *Priest* bids the *Bridegroom* put his hand through the Hole, and take his *Bride* by the hand; which no sooner done, but her Mother, or some other of her Friends, being prepared with a sharp Instrument, pricks his hand all over; and if he doth not pull away his hand when he is so pain'd, but still holds her so fast that she cries, they hold it a sign that he will love her; and if he lets her go, a sign of no great love.

Chief places in *Assyria*.

Places of most note: 1. *Ninive*, first built by *Nimrod*, and afterwards so enlarged by several succeeding Kings, that it became at last to exceed *Babylon*, as well in largeness as otherwise; its Walls being in circuit 60 miles, being about 33 yards

33 yards in height, and 24 in breadth; and on whose Walls there was (for further strength) 1500 *Turrets*, or *Towers*, which made it to be thought impregble. To this City the Lord sent *Jonah* the Prophet, to Preach Repentance to them; but afterwards for their Sins, it was destroyed by *Astyages* King of the *Medes*, out of whose Ruins the City, 2. *Mosul* was raised, which at present is the chief City of *Assyria*, seated on the *Tygris*, most eminent for being the residence of the *Nestorian* Patriarch, where are founded 15 *Christian Churches*. It is enclosed within a Wall, and is the residence of a *Bashaw*; a place much ruined, but of note for the great concourse of Merchants, this being a thoroughfare City. 3. *Scherehezull*, or *Schahrazur*, is very near to *Persia*, and is the Seat of a *Turkish Beglerby*, or *Bassa*, who hath 10000 *Timariots* under his command, for the defence and security of this Country. It is near to, if not the same as *Arbela*, renowned for the Victory of *Alexander* the great against *Darius*, and is said to retain its ancient name, and to be an Archbishoprick of the *Jacobites*. 4. *Geguamela*, noted for the last and greatest Battel betwixt *Alexander* and *Darius*, King of *Persia*, in which *Alexander* gained the Victory. 5. *Calach*, built by *Nimrod*, being one of the Cities to which *Salmanassar* transplanted the *Ten Tribes*. 6. *Arbela*, seated on the Banks of the River *Caprus*, by some supposed to be the place where *Noah's Ark* was framed: And 7. *Sittace*, pleasantly seated in a fruitful Soil.

TURCOMANIA.

Turcomania bounded.

TURCOMANIA, or *ARMENIA MAJOR*, touches the *Caspian Sea* between *Georgia* and *Servan*; and on the *Black Sea*, between *Anatolia* and *Georgia*, it extends from East to West little less than 200 Leagues, and from South to North, 150 answering to the great *Armenia* of the Ancients.

Its People.

Some divide it only into two sorts of People, the *Turcomans* and the *Curdes*; I would add at least the *Armenians* and the *Georgians*, these possessing a great part of the Country as well as the others, who are the natural and most ancient Inhabitants: for the *Turcomans* are esteemed to descend from *Turqueſtan* in *Tartary*, from whence come the *Turks*, and to whom they are most resembling; the *Curdes* descend from the ancient people of *Assyria*, *Mesopotamia*, *Chaldea* or *Babylonia*; the most Easterly of these three parts being yet called by the *Turks* and by the *Persians*, *Curdistan*, or the Country of the *Curdes*: and the *Georgians* descend from *Georgia*, which is above, and contiguous to our *Turcomania*.

Of these four sorts of People, the *Armenians* are the most industrious and civil, addicting themselves to Merchandize, as appears by their Manufactures, especially in their rich *Tapestries*, *Grograins*, *watered Chamlets*, &c. with which they drive a trade; being also proper Personages and good Archers. The *Turcomans* apply themselves to the Field, and to look after their Flocks: the *Curdes* are almost ever on Horse-back, having much of the *Arabick* Nature: the *Georgians* are the most docil, and the most peaceable. The *Turcomans* and the *Curdes* are *Mahometans*; the *Georgians* and *Armenians*, the greatest part *Christians*. And the *Armenian* Tongue is one of the most general in all *Asia*; extending it self likewise other where, and having *Armenian* Patriarchs and Bishops, not only in *Armenia*, but likewise in *Anatolia*, *Persia*, the *Holy Land*, *Ægypt*, *Russia*, and *Polonia*.

Amongst the Ceremonies observed by the *Armenians*, I shall take notice of some few, as I find them in the Travels of *Tavernier*. They are very costly in adorning their *Churches*, especially the *Choir* and the *Altar*; at the ceremony of the *Mass* they light abundance of *Tapers*, and after the *Gospel* is read, several of the *Noviciates*, some having Bells fixed to long Sticks, and others having *Copper-plates* hung about with Bells, shaking and striking them one against another, together with the *Ecclesiasticks* and *Laity*, who sing, and make an indifferent harmony; during which the *Archbishop* and *Bishops* performs

forms several Ceremonies, and says certain Prayers; which being done, having the *Chalice* in his hand, and the *Bread* upon it, he turns towards the People, who immediately prostrate themselves on the ground, beating their Breasts, and kissing the Earth, whilst the Archbishop pronounceth these words, *This is the Lord, who gave his Body and Blood for you:* then he turns towards the Altar, and eats the *Bread* dipt in *Wine*, (for they never drink the *Wine*;) then he turns again to the People with the *Chalice* in his hand, and they that will receive, taking the *Bread* from the Archbishop; and this *Bread* is consecrated the day before. That which is observable amongst them, they give the Communion to Children of 2 or 3 Months old; and they never administer the Sacrament all the time of their *Lent*. They have four Feasts in the year besides their *Lent*, at which times they observe the same Ceremonies as at *Lent*, eating no *Flesh*, *Fish*, *Butter*, *Eggs*, or *Oil* for 8 days; the Feasts are *Christmas*, the *Ascension*, the *Annunciation*, and *St. Georges*.

When a man designs his Son for the Priesthood, he brings him to the Priest, who puts the *Cope* about his Shoulders, open on both sides; after which he takes him home, and keeps him till the age of saying *Mass*, which is 18 years; then he goes into the Church, out of which he is not allowed to depart for a year, during which time he is employed in the service of the Church. And the Priest that is married after he hath said *Mass*, must be 5 days before he returns home to eat, drink, or lie with his Wife.

They generally Baptize their Children on *Sundays*, which is performed by putting it naked into the Water, then gives it to the Godfather, anoints it in several places in form of the *Cross* with holy Oil, and pronounceth these words, *I baptize thee in the name of the Father, the Son, and the Holy Ghost*; and sayeth several Prayers suitable to the occasion.

See *Tavernier*, fol. 173.

In their *Marriages* the Ceremonies are too many here to repeat: I shall take notice of some few. They are permitted to marry at 3 or 4 years of age; the agreement is made betwixt the Mothers, or for want of them, by the Females next of kin; which agreement the Father stands unto, and after a Ring is presented to the intended Bride, the Contract stands. The *Bridegroom* and *Bride* never seeth one another till after the Nuptial Ceremonies are ended, both riding to the Church with their faces Vailed, the *Bridegrooms* is a *Carnation Tiffany*, or else *Gold* and *Silver* Net-work, and the *Bride* with a large white Veil, which covereth her body; thus Riding, they are attended by their Relations and Friends with *Tapers* in their hands, also the *Drums*, *Trumpets*, and other Musical Instruments wait on them to the Church-door: being entred and advanced near the *Altar*, they lean Forehead to Forehead, then the Priest lays the Bible on their Heads (instead of a Desk) and so pronounceth the Ceremony, which is much like ours; after the *Benediction* they hear *Mass*, and so return to the House of the *Bride*. At their Feasting the Men sit by themselves, and the Women by their selves; the Man goeth to Bed first, and the Woman pulleth off his Breeches, but putteth not off her Veil till Candles be put out; and at all times of the year the Woman riseth first, so that the poor *Bridegroom* knoweth not whether he hath met with a Beauty, or a course and ill-favoured piece of flesh; but be she what she will, he must keep her.

About their Dead; the Body is washed, wherein is put some Holy-water, then it is dress with a clean white Shirt, a pair of Breeches, a Waist-coat, and a Bonnet; then it is put in a Linnen-Sack, and sewed up; then it is carried to the Church, accompanied with the Friends and Relations of the deceased, who carry in their hands *Tapers*, and being come to the *Altar*, after some Prayers are said, they leave the Corps there all Night; the next Morning the Bishop or Priest, attended as before, says *Mass*; several Prayers being said, and Dirges sung, the Corps is puts in the Grave, and the Bishop casts 3 handfuls of Earth in, one after another, saying, *From earth thou camest, to earth thou shalt return, and stay there till our Lord comes*; then the Grave is filled up, and the Relations and Friends that will, go back to the House of the Deceased, where a Collation is prepared. These, with many other Ceremonies, are performed by them.

The

Its Air, and fertility and trade.

The Air is healthful, though its temperament be cold, because of the Mountains and Hills, which overspread the Country; but intermixt with fertil and and delightful Valleys, the Soil producing more Grain and Fruits than Vines; It yields *Bolearmoniack*, *Hony*, and, towards *Servan*, *Silk*, together with some Mines of *Silver*. The Pastures are every where excellent, and particularly for *Horses*, of which they make great account; for when *Armenia* was subject to the ancient Kings of *Persia*, it furnished them yearly with 20000 *Horses*. At present the *Turk* possesses the greatest part of the Country, and keeps still, or did not long since, *Beglerbies* at *Erzerum*, *Cars*, *Revan*, *Van*, *Schildir*, *Tefflis*, and *Derbent*: besides which there are many Cities of considerable note, some of which the *Persians* hold.

Its chief Places.

1. *Erzerum*, on the *Euphrates*, near the *black Sea*, on which, and not far from *Erzerum*, is *Trebisonde*, which facilitates a great trade between the East, West, and North; for coming from the *Indian* Ocean by the Gulph of *Ormus*, and so up the *Euphrates*, they may receive passing by what comes from the West to *Aleppo*, and carry it unto *Erzerum*; from whence, to *Trebisonde* by land, is not above 25 or 30 Leagues. 2. *Cars*, *Chars*, or likewise *Chissery*, is four or five days Journy from *Erzerum* towards the East, on the River *Euphrates*; it hath been taken and retaken divers times by the *Turks* and *Persians*. The same may be said of *Revan*, *Schilder*, and *Van*: this last is not great, but well Walled, and with greater Ditches, and hath a Castle whose scituation is such, as renders it almost inaccessible. 3. *Tefflis* is likewise in some esteem at present, but much more formerly under the name of *Artaxata*, which *Artaxias*, Father of *Tigranes* King of *Armenia*, caused to be builded and fortified at the perswasion of *Hannibal*. 4. *Derbent*, of great antiquity, being supposed to have its foundation laid by *Alexander* the Great; who also erected that no less great than strong Castle, which is called *Caffow*, adjoyning to the said City, which is the greatest and most ordinary passage between *Turcomania*, *Persia*, and other Southern Provinces of *Asia*, to *Zaire*, the Kingdom of *Astracan*, and other more Northern Estates of *Europe* and *Asia*. Its scituation is upon the utmost Mountains, which regard the *Tabereстan*, or the *Caspian* Sea: and all is so well fortified, that the *Turks* have took occasion to call the place *Demir*, or *Temir Capi*, or the Port of *Iron*: and the name of *Derbent* signifies a *Streight Port*; and in all likelyhood these are the *Caspiæ Portæ*, so famous among the Ancients; because that in the *black Sea*, and the Sea of *Tabareстan*, which is about 3 or 400 thousand Paces: It is all high, Mountainous, and hard to be passed; and if there be any passages, they are infamous for Robberies and Incursions, which the Inhabitants of the Countries, or the Princes which possess them, make. This City is a place of great strength, being inviroued with two strong Walls, and fortified with *Towers* and *Iron-gates*, being accounted the Key or Inlet to *Persia*, now in the hands of the *Grand Signior*. 5. *Bitlis*, and *Mamsiute*, belong to the *Curdes*, who have here many and divers Lords, but too affected to the *Persians* than the *Turks*, and yet when the *Turks* have established Governours in these quarters, they have chosen them out of the principal of the Country, who have not ceased to take part in all occasions rather with the *Persians* than the *Turks*. *Bitlis* is between two Mountains, watered with a River, which receives many fair Fountains. The Houses are built with Stones, which is rare in that Country; others being of nothing but *Wood* and *Earth*. The Castle is seated advantagiously, but I believe this place is not now in the hands of the *Turks*; and to speak truth, we have at present little knowledge of any thing concerning these quarters.

The Bounds of *Armenia*.

ARMENIA was much better known, and more famous in Ancient time than at present, under the name of *Turcomania*. Its Bounds are very advantagious, being quite encompassed with high Mountains, large Rivers, and washed by divers Seas, and seated Northwards of the *Caspian* Mountains, which divides it from *Media*, now called *Servan*.

The Mountains of *Armenia*.

This Country is well replenished with *Mountains*, *Vallies*, *Rivers*, and *Lakes*. The Mountain *Anti-Taurus* divides it East and West, almost from one extre-

extremity to the other; whose most Easterly point is called *Abus*, from whence the *Euphrates*, *Tigris*, and *Araxes* take some of their Streams. The *Gordian* Mountains pour forth the greatest supplies to *Tigris*; and the *Pariardes* increase most the Streams of *Euphrates*, *Araxes*, and *Farza*.

Chief Rivers in *Armenia*.

Farza turns his course towards the North, and after having passed *Colchida*, and pressed through 100 or 120 *Bridges*, falls into the *Euxine Sea*. *Araxes* turns towards the East, watering the fairest and richest Plains of *Armenia*; and falls into the *Caspian Sea* between *Media* and *Albania*. Both the one and the other *Euphrates* descend towards the West; but approaching the *Euxine Sea*, it turns again towards the South, and reunites its two Channels into one, traverses the *Anti-Taurus* and *Taurus*, divides *Armenia* and *Mesopotamia* from *Asia Minor*, *Syria*, and *Arabia*; descends into *Chaldea*, where it waters the ancient *Babylon*, and loses it self in the *Tigris*. This last descends from Mount *Abus*, and the *Georgian* Mountains, falls into divers Lakes, loses it self and rises divers times out of the Earth; cuts the Mountain *Niphates*, separates *Mesopotamia* from *Assyria*, washes *Ninive*, *Seleucia*, *Ctesiphon*; receives all the branches of the *Euphrates*, and discharges it self in the *Persian* Gulph.

Lakes of most note in *Armenia*.

The greatest *Lakes* of *Armenia* are, *Thospitis*, *Areessa*, and *Lychintes*; this last is towards the *Araxes* and the *Caspian Sea*: *Areessa* is the same that *Pliny* and *Solinus* call *Arethusa*. *Thospitis*, according to *Ptolomy*, is another Lake the *Tigris* likewise crosses; after which it loses it self the second time. The first hath its Water so, as it will take spots out of Cloth, not good to drink.

Kings of eminent note in *Armenia*.

Among the Kings of *Armenia*, which made the most known to the *Romans* or *Parthians*; *Tigranes*, Son-in-law to King of *Pontus*, hath been the most famous. This *Tigranes*, after having been Hostage in the hands of the *Parthians*, regained his Estates by them, in recompence of which he gave them 70 Valleys, on the confines of *Media* and *Assyria*; but after he knew and had gathered together his Powers, he retook all those Vallies, beat the *Parthians* out of them, pillaged *Assyria* as far as *Ninive* and *Arbela*, subjected to himself a part of *Media*; and afterwards all *Mesopotamia*, *Syria*, *Phœnicia*, and *Cilicia*. But whilst he believed himself above Fortune, *Mithridates* his Father-in-law was divers times defeated, and driven from his Realm of *Pontus* by *Lucullus* and the *Romans*, and retiring himself into *Armenia* to his Son-in-law, his refusal to abandon or deliver him into the hands of *Lucullus*, drew the *Romans* into *Armenia*, where *Lucullus* several times defeated *Tigranes*, took *Tigranocerta*, where was his Regal Diadem, and likewise in a great Set-Battel, where *Tigranes* had 150000 Foot, and 1000 or 1200 Horse, slew 100000 Foot, and the greatest part of his Cavalry, constraining him to yield to the *Romans* the Provinces of *Cilicia*, *Syria*, *Phœnicia*, and *Mesopotamia*, and content himself with *Armenia* only; but for the present let us lay aside History.

The division of *Armenia*, according to *Ptolomy*.

Ptolomy divided *Armenia* into four principal Parts, and allotted to the first 7 Regions or Provinces, 6 to the second, 3 to the third, and 4 to the fourth: placing in the first part 30 Cities, 27 in the second, 12 in the third, and 18 in the fourth; which are in all 4 *Parts*, 20 *Regions* or *Provinces*, and 87 *Cities*. *Pliny* accounts 120 *Strategies* in *Armenia*, which are the Governments or particular Jurisdictions of every Province; six for each, and one as much as the other. *Armenia* is not only known in prophane History, but likewise in Holy Writ. After the Deluge, the Holy Scripture makes mention, that the *Ark* of *Noah* rested upon the Mountains of *Armenia*: to say precisely at present which they were (there being so many in *Armenia*) Authors cannot agree. We only conjecture, that they must be either *Abus*, which ends the *Anti-Taurus*, or the *Pariardes*, or the *Gordoas*, which are the highest in all *Armenia*; and from whence the *Euphrates*, the *Tigris*, the *Phazza* or *Phasis*, and *Araxes* descend.

Now *Euphrates* is called *Frat* or *Forat*, the *Tigris*, *Diglath* or *Digeluth*; these two names, *Frat* and *Diglath*, are found among the four Rivers, which *Moses* saith came forth from the *Terrestrial Paradise*: We must therefore seek this *Paradise* not far from hence; the difficulty is to find the other two Rivers, *Phison*, and *Gihon*.

Almost

The *Terrestrial Paradise* in *Armenia*.

Almost all Authors conclude the *Nile* for *Gehon*, and the *Ganges* for *Phison*; but as the Bible describes these Rivers to us, they must descend from the same place; which the *Tigris*, the *Euphrates*, the *Nile*, and the *Ganges* cannot do. The *Tigris* and the *Euphrates* have some Springs, which are not far distant the one from the other; but those of *Ganges* are more than 200 Leagues, and those of the *Nile* more than 1500 Leagues from those of the *Tigris* or *Euphrates*; and moreover those of *Nile* and of *Ganges*, are more than 2000 Leagues one from the other.

Phasis hath its heads in the same Mountain with the *Euphrates*, and may therefore better answer to *Phison* then can the *Ganges*. The *Araxes* hath its Springs in the same Mountains with the *Phasis* and *Euphrates*, and so may better answer to the *Gehon* than the *Nile*; for as for the *Gehon*, or *Jehun*, which we now know it answers to the *Oxus* of the Ancients; which runs between *Bactriana* and *Sogdiana*, and discharges itself into the *Caspian Sea*; but it hath its Springs in Mount *Caucasus* in *India*, a little on this side the Springs of the *Indus*, which are likewise 8 or 900 Leagues from those of *Tigris* and *Euphrates*.

Since then the *Tigris*, *Euphrates*, *Phazza*, and *Araxes*, have here their Springs, we may judge that the *Terrestrial Paradise* was in these Mountains. The Holy Scripture saith, that it had in the midst of it a Fountain, from whence issued a River alone, which divides itself into four others, which it names *Phison*, *Gehon*, *Diglath*, and *Frath*. It is to be believed, that this Fountain was in the midst of the World, to the end the Rivers might have a course almost equal to water all parts of the World. It must likewise be concluded, that this *Fountain* must be in some high part of the World, to the end that Rivers might have an equal fall. The Mountains of *Armenia* are directly in the middle of our Continent; which may easily be proved by casting the eye upon the whole Continent: they are likewise the highest in the World, since they were first discovered after the Deluge, and those on which the *Ark* of *Noah* rested; and the modern names of the Rivers not being very different from the ancients, at least the three or four; I am bold to say, that if there yet remains any marks by which we may discover the place where the *Terrestrial Paradise* hath been, it is rather in these quarters than any other.

GEORGIA.

Georgia, and its parts.

ABove *Turcomania*, and between the *Black Sea* and the *Caspian*, as far as Mount *Caucasus*, lies GEORGIA; which is divided into three or four parts, *Mingrelia*, *Avogasia*, *Gurgiston*, and *Quiria*: *Avogasia* is sometimes comprehended under the name of *Mingrelia*; and on the other side a part of the ancient *Armenia* passeth likewise under the general name of *Georgia*: *Mingrelia* and *Avogasia* together, are the same with *Colchis* of the Ancients, or little more: *Gurgiston*, to the ancient *Iberia*, and sometimes likewise to that part of *Armenia*, which falls under the general name of *Georgia*: *Quiria* answers to the ancient *Albania*.

The *Georgians* are docil, peaceable, lovers of Christianity, much addicted to drinking, and the stronger the Drink the better acceptable: At Feasts the *Women* never eat with the *Men*. They are great lovers of *Onions* and *Herbs*, are much addicted to Trade, are great Travellers, are very expert at the *Bow* and *Arrow*, and are esteemed the best Souldiers in all *Asia*.

Its chief places.

The Cities of *Phans*, or *Phazza*, and *Savatopoli*, are the most famous of *Mingrelia*, and formerly of *Colchis*. *Savatopoli*, once *Sebastopolis*, and before that *Dioscurias* had the confluence of 300 different Nations, and different Tongues, which came hither from the North, in way of Traffick. *Phazza*, anciently *Phasis*, on the River of the same name, was the abode of *Æetes*, who kept the *Golden Fleece*, which the *Argonauts* took away, after having vanquished all those difficulties which presented themselves to their hindrance.

Of the *Golden Fleece.*

I believe that this *Golden Fleece* was no other thing, than a Trade of *Wool, Skins*, and *Furrs*, which all the Northern People brought to *Phasis*, which *Jason* and the *Greeks*, among all the People of *Europe* were the first Discoverers of: And because there was great profit, and many hazards and dangers in the first Navigations, it was feigned that the *Fleece* was of *Gold*, and that it was guarded by furious Bulls, Men well armed, and a horrible and affrightful Dragon. It may be added, That *Jason* with the *Golden Fleece* brought *Medea* with him, which after caused so many displeasures in his Family; that is, that Riches having introduced some Luxury among the *Greeks*, their *Women* became more proud and troublesom.

Places in *Georgia.*

Cori and *Bassachiuch* are the best Cities of *Gurgistan: Tefflis* and *Derbent* the fairest of that part of *Armenia*, which passes under the name of *Georgia*; *Bassachiuch* may answer to the ancient *Artamista*; *Cori* to *Harmastis*, or *Armastia*; *Tefflis* to *Artaxata*; and *Derbent* to *Caspiæ Portæ: Bassachiuch* and *Cori*, with some other places of *Gurgistan*, have their Princes, of which there are many throughout *Georgia*; *Cori* is most advanced towards the Sea, and *Bassachiuch* more engaged with the Mountains. *Tefflis* and *Derbent* are in the hands of the *Turks*, as we have said in *Turcomania.*

Country of *Quiria*, its Provinces, and the chief Places.

QUIRIA extends it self from the particular *Georgia*, which lies on the West and South unto Mount *Caucasus*, which bounds it on the North side. Some Authors divide it into two, others into three Provinces; of which the chief Cities are *Stranu, Zitrach*, and *Chipicha*; instead of *Stranu:* others put *Zambanach*; and instead of *Zitrach, Gorgora*; possibly these names are not different but to divers People, though they be the same places. However it be, *Stranu*, or *Zambanach*, answer to the ancient *Albana*, Metropolis of *Albania*; *Zitrach*, or *Gorgora*, answers to the ancient *Getara*, which the *Greek* Text in *Ptolomy* writes *Gagara*, and both the places are on the Sea: they have been, and may possibly yet be, rich and Merchandizing. *Chipicha* is farther up in the Land, and was the ancient *Chabala.*

COMMANIA.

Commania, and its bounds.

ABove *Georgia* lies *COMMANIA*, little known by the Ancients, and less at present; Mount *Caucasus* bounds it on the South, and separates it from *Georgia*; the River *Don* or *Tana* is its Northern limits, and parts it from *Muscovia*; the *Euxine* or *Black Sea*, and the Sea of *Zabaque* or *Tana*, doth wash it on the West, and divides it from the *petty Tartars:* the *Caspian* Sea, or the Sea of *Taberestan* lies to the Eastward of it, and gives it Traffick and Communication with *Persia* and *Tartaria.*

Its length and breadth.

This Region may have 300 Leagues of length from the Streight of *Vospero* unto the River *Volga*, which are its extream bounds from East to West, and about 100 from North to South.

Its People.

The People pass all under the general name of *Circasses*, which the *Polonians* call *Peint Zeorstki*, that is, the Inhabitants of the *five Mountains.* They are free, having some Chiefs or Governours, and living very near after the manner of *Switzers* in *Europe*, hiring themselves to War, sometimes to the *Turks*, their Neighbours, on the *Black Sea*; sometimes to the *Tartars* or *Moscovites*, which are next them on the Sea of *Zabaque* and River *Don*; and sometimes likewise to the *Soldan* of *Persia*, who is their Neighbour on the *Caspian* Sea. They have been *Christians* of the *Greek* Churches, but with many Superstitions; at present, for want of Teachers, many let themselves fall to *Mahumetism*, others to *Idolatry.* They are warlike, nor care they for fortifying their Towns, confiding in their Arms, and in the scituation of their Country. At their *Funerals*, the Relations and Friends of the Deceased scarifie their Flesh, prostrating themselves on the ground, and tear their Hair. If a man have no Children by his Wife, he may take others to raise up Issue; and Women are allowed their Gallants, and the more she hath, the more she is respected; which proceeds from her handsomness,

handsomness, Beauties being admired by them; and this is no disgrace to her Husband, as amongst us: and if the Man or Woman cannot agree, they are parted. The People for the generality are of an excellent Complexion, especially the Wome[illegible] All the Country People are slaves to the Lord of the Village where they live, and are employed to till his ground, and other services.

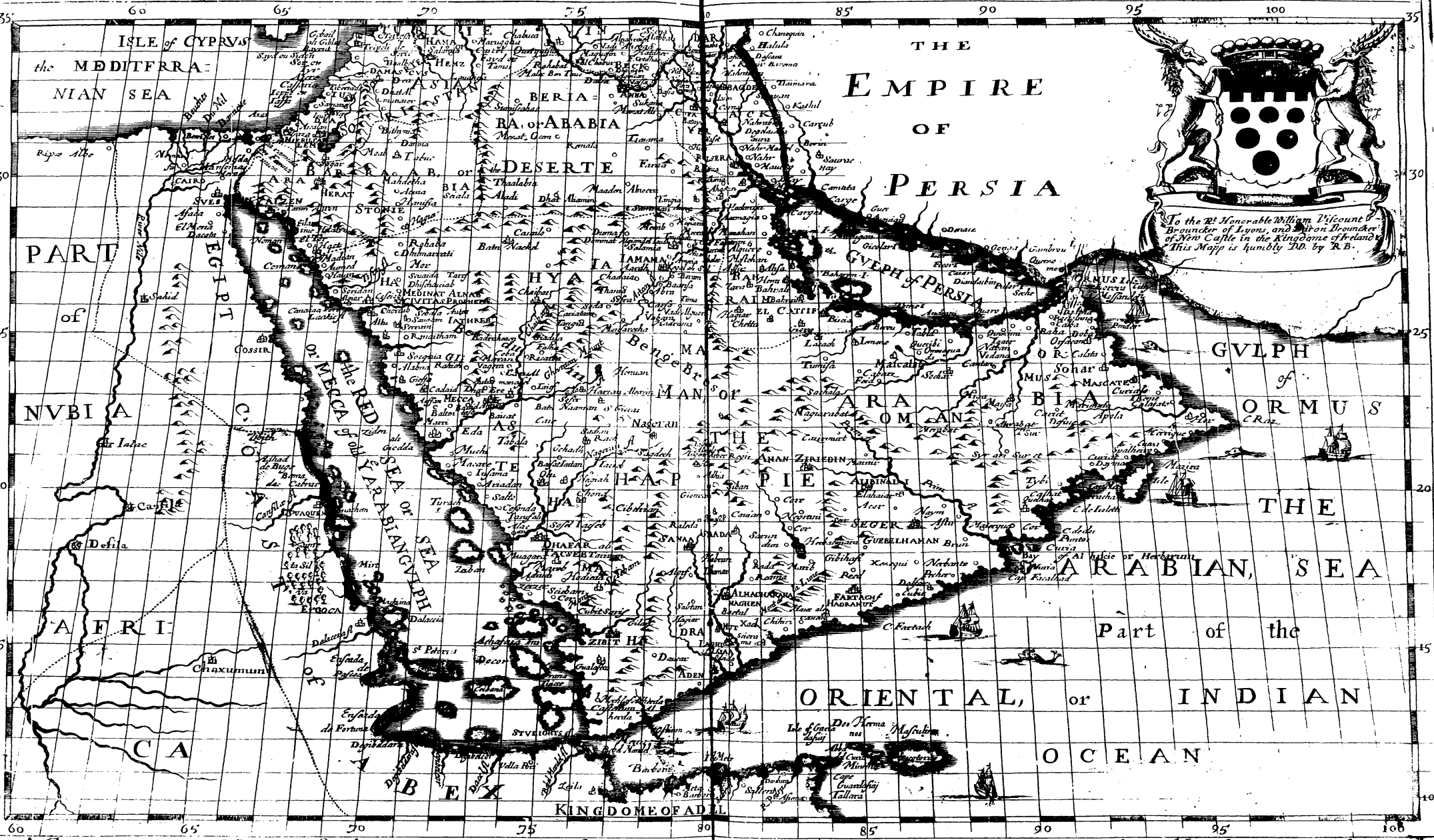
Its ancient People the Amazons.

But the People of these Quarters have been much more famous formerly, under the name of *Amazons*; for this was their true and natural Country, from whence they came, and made their incursions into divers parts of *Europe* and *Asia*. They had Soveraignty in *Colchida*, in *Albania*, in *Cappadocia*, in *Asia* the Lesser, *in Cilicia* in *Syria*; and did in divers places build many fair Cities, as *Themiscyra* in *Cappadocia*, and on the *Euxine Sea*; *Mirlea* in *Bithynia*, and on the *Propontick*, *Pytane*, *Myrina*, and *Cuma* on the Coast of *Æolia*; likewise *Ephesus*, *Smyrna*, and *Pyrene:* On the Coast of *Ionia*, (these two Quarters, *Æolia* and *Ionia*, being on the *Ægean Sea*,) *Mitelene* in the Isle of *Lesbos*, and *Paphos* in the Isle of *Cyprus*, who made themselves known in those Wars they sustained against *Hercules*, near *Themiscyra*; against *Theseus*, near *Athens*, whither they carried the War against the *Greeks*, before *Troy*, whither they went in favour of *Hector*, against the *Persians*, and other People, in divers occasions. Some of them made their abode at *Themiscyra*, others at *Alope*, which was afterwards called *Ephesus*; and others at *Zeleja*, not far from *Troy.*

To conclude, the Ancients have spoken so many wonders of them, that the least of them have passed for Fables. It may be believed, that some Estates in these Quarters being fallen under the Government of *Women*, their Husbands being deceased, and their Children young, or for some other reason, these *Women* administred the publick Affairs with so much conduct and generosity, both in Policy and War, that they excelled the greatest part of Men; from whence the *Greeks*, according to their ordinary custom, took occasion to speak things not only beyond the Truth, but all that came nigh to Truth. And so much for *Turky* in *Asia.*

ARA-

- ARABIA, which may be considered in
  - LAND, with its three Parts, as they lie
    - Between the RED-SEA, and Gulph of BALSERA and ORMUS; as, — HYAMAN, GEMEN, or ARABIA the HAPPY.
      - Medina,
      - Chaibar,
      - Algiar,
      - Egra,
      - Soquia,
      - Mecca,
      - Zideh,
      - Nageran,
      - Dhafar,
      - Mugara,
      - Zerzer,
      - Cubid,
      - Gilan,
      - Zibith,
      - Sanaa,
      - Mechlaf Atherda,
      - Aden,
      - Abin,
      - Odeida,
      - Laghi,
      - Almacharama,
      - Saada,
      - Farrach,
      - Agiaz,
      - Caxem,
      - Gubit,
      - Dolfar,
      - Peicher,
      - Nerbante,
      - Guebelhaman,
      - Alibhali,
      - Calhat,
      - Cor,
      - Tybi,
      - Dayma,
      - Curiat,
      - Spalheiro,
      - Cueva,
      - Cerique,
      - Hor,
      - Calajate,
      - Mascates,
      - Sohar,
      - Orfacan,
      - Doba,
      - Mocandon,
      - Mirabat,
      - Masfa,
      - Syr, or Sour,
      - Mascalat,
      - Jemen,
      - Zirisdin,
      - Lalach,
      - Elcatif,
      - Bahar,
      - Ahfo,
      - Manabon,
      - Fararan,
      - Jamama,
      - Borani.
    - Near PALESTINE, or the HOLY LAND; as, — BARRAAB, or ARABIA the STONY,
      - Madian,
      - Medava,
      - Sur,
      - Thara,
      - Herat, of old Petras,
      - Moab,
      - Buffereth,
      - St. Catherine.
    - Near CHALDEA, and the EUPHRATES; as, — BERIARA, or ARABIA the DESART,
      - Anna,
      - Mexat-Ali,
      - Mexat Ocem,
      - Sumifcafac,
      - Sukana,
      - Faras,
      - Kadhema,
      - Anna,
      - Abadon,
      - Tangia,
      - Thaalabia,
      - Remala,
      - Maaden Alnocra.
  - ISLES adjacent, as they lie
    - In the PERSIAN GULPH, or GULPH of BALSORA, and ORMUS; as,
      - Baharem, — Manama.
      - Ouiximi.
      - Cori.
      - Tome.
      - Andrani.
      - Quaro.
    - In the SOUTHERN OCEAN; as,
      - Mazira, — Mazira.
      - Curia.
      - Muria.
    - In the RED-SEA, or Sea of MECCA; as,
      - Tincce.
      - Camaran, — Camaran.
      - Decor.
      - Zaiban.
      - Turach.
      - Muchi.
      - Monte Marzoan.
      - Genaman.
      - Chifale.
      - Cajas.



A GENERALL Mapp of ARABIA, with the Red Sea and Circumiacent Lands. Delineated by Monsieur Sanson.

ARABIA.

Arabia; its Bounds.

ARABIA hath for its Eastern Limits, the *Persian* Gulph and *Chaldea*; for its Southern, the *Ocean*; for its Western, the *Red Sea* and some part of *Egypt*; and for its Northern Limits, the River *Euphrates*, together with some part of *Palestine*.

Its Parts.

Arabia, hath been well known both to the Ancients, and at present. They commonly divided it into three parts: *Baraah*, or *Arabia* the Stony, which lies near the *Holy Land*; *Berjara*, or *Arabia* the Desart, near to *Chaldea* and the *Euphrates*; *Hyaman*, or *Gemen*, or *Arabia* the Happy, which advances it self between the *Red-Sea*, which separates it from *Africa* and the Gulph of *Ormus*, which divides it from *Persia*, into the *Indian Ocean*. And this part is the greatest, the richest, and best inhabited of all.

Arabia the Stony, and its chief places.

Arabia the Stony hath for its chief places, 1. *Petra*, now called *Herat*, which signifies a Rock, whereon it was built with an advantagious scituation; a place of great strength, and much noted as well in prophane History as Holy Writ. 2. *Bostra*, now called *Busesereth*, rebuilt after its former Ruins by *Augustus Cæsar*; a City of great Antiquity, and memorable for being the Birth-place of *Philip*, one of *Alexanders* Successors, who was the first of the *Romans* Emperours which embraced Christianity. 3. *Medava*, now *Moab*, according to the Translation of the *Septuagint*; and being so, the name may be taken from *Moab*, Son of *Lots* eldest Daughter, from whence the *Moabites* descended, of whom mention is made in the Old Testament. 4. *Berenice*, so named from an *Egyptian* Queen, but better known by the name of *Esion Geber*; here it was that the Children of *Israel* did encamp; where also those Ships employed by *Solomon* to *Ophir*, did make their ordinary Harbour. 5. *Sur*, one of the chief Cities of the *Amalekites*, giving name to a Wilderness there adjacent, remarkable for the great Victory which *Saul* gave the *Amalekites*, where also the Children of *Israel* first encamped after their passage through the *Red Sea*. 6. *Thara*, where *Korah*, *Dathan*, and *Abiram*, were punished. And, 7. *Madian*, seated towards the *Red Sea*, being the City of *Jethro*, whose Daughter, *Zipporah*, *Moses* took to wife.

Remarkable things here transacted.

Besides these Cities there are some others, yet the Country is for the most part Desart, and is the same where the Children of *Israel* wandred 40 years; there, where then inhabited the *Moabites*, *Amalekites*, *Midianites*, *Idumæans*, and others; there, where are the Mountains *Sinai* and *Horeb*. The *Israelites* being in these Desarts, lay a whole year near this Mountain, and during that time, *Moses* received from God the *Decalogue*, dedicated the *Tabernacle*, ordained a *High Priest*, *Priests* and *Levites*, and established *Ecclesiastical* and *Political Laws*. There is at present a Monastery of St. *Katherine*, built by *Justinian*; and all sorts of *Pilgrims* are received by the *Caloyers*, that is, *Religious Greeks* which inhabit there. The *Burning Bush*, in which God appeared to *Moses*, was near Mount *Horeb*. The *Rock* which *Moses* struck to have Water, was of this Mount; and likewise on this Mountain it was that *Moses* besought God for the *Israelites* against the *Amalekites*. Also Mount *Hor*, bordering on *Idumea*, where *Aaron* died.

On the Coast of the *Red Sea* is the Castle *Tor*, a Borough or Walled Town, and a Port very famous, where it is believed, that the *Israelites* having passed the *Red Sea*, entred the Desarts this way: And it is likewise a great Passage, where the *Caravans* stop at their return from *Mecca*.

Arabia

Arabia the Defart described.

ARABIA the Defart, so called by reason of the vast Sandy Defarts, and the uninhabitableness thereof, scarce affording either food for Man or Beast; so that those which travel this Country are forced to carry with them their Provision, and guide themselves to the place design'd by the help of *Stars*, as they do at Sea; and are forced to go in great Companies or *Caravans*, for fear of being robbed and rifled by the *wild Arabs* (who here inhabit in Tents, which they remove as occasion serveth from place to place, either for fresh Pasture, or otherwise,) and yet much travelled by Merchants, who Trade into *Babylonia*, *Egypt*, and elsewhere. Some Authors have observed in the course of their Trade, that the *Sandy Defarts* are their *Seas*, the *wild Arabs* their *Pirates*, and their *Camels* their *Ships*; each *Camel* carrying 600 or 1000 pound weight.

Its People.

The People are much addicted to Theft, by which they get their chief living, being stout and warlike Men, and not Tilling the Earth, and planting *Fruits*, *Plants*, or the like; their chief food being *Venison*, *Milk*, *Fowls*, and *Herbs*. They go half naked; their Wives they hire for what time they please, who in way of a Portion bring a *Tent* and a *Spear* to their Husbands. Both Sexes are much given to Carnal lusts, and when Women are delivered of a Child, they leave it without troubling themselves with it.

Its chief Cities.

There are found in *Arabia* the Defart two Cities of the name of *Anna* or *Anna*, one on the *Euphrates*, and the other on the River *Astaj*, not far from the Gulph of *Balsora*: this last is least famous; the other is the most considerable of the Province, seated both on the one and the other Bank of the *Euphrates*; but the greatest part and the richest is on the *Arabian* side. There is in all about 1000 Houses, which have been much ruined in the late Wars between the *Turks* and *Persians*. The City contains divers Mles, on one of which is a Castle. At *Suskannu*, a Borough upon the great Road between *Anna* and *Aleppo*, *Texeira* saith, That the *Women* are as fair as *Angels*; if he had like-wise said as wife, and had spoken truth, all *Men* from the four Corners of the World had been obliged to go to seek them. 3. *Mexit Ali*, that is, the Oratory of *Ali*, had once 6 or 7000 Houses, when the Sect of *Ali* bore sway in those quarters: there remains at present not above 500 Inhabitants. 4. *Mexit Ocem*, that is, the Oratory of *Ocem*, is not walled, nor hath above 4000 Houses. *Saba*, now *Simiscasic*, according to the opinion of *Guilhandin*, is the place from whence the Three *Wise-men* departed to go to *Bethlem*, to adore the *Saviour of the World*.

This *Arabia* the Defart, according to some, hath divers *Lords*, which command it, and which for the most part are Vassals or Tributaries to the Great *Turk*; who holds likewise a part. But these People being more inclined to the *Mahometan* Sect of *Ali*, which is that of the *Persians*, than to that of *Omar*, which is that of the *Turks*; are more affectionate to the *Persians* than to the *Turks*; and some of these *Lords* likewise hold of the *Persians*.

Others give all *Arabia* the Defart to one King, and will have the City, or rather the Court of that Prince, to have a wonderful disposition and situation; and that the Prince can make it all a March or Walk when and as often as he pleases, which is (till by going thither where they may best find food for their *Horses* and *Camels*; and they say, that the place being chosen, they dispose the Quarters and Streets after the ordinary manner, and at the same time pitch all the Tents; that of the Prince in the midst, and the others about always in the same fashion; that part which is towards the North, South, East, or West never changing. And the Quarters and Streets have their Names and their Tents in the same form; insomuch that who once knows the order, may easily find any which inhabit therein.

This moving City, or rather this *Court Royal*, contains not only the *Militia* of the Prince, which are above 2000 Men, but likewise great number of their *Nobility*, *Merchants*, *Artizans*, and divers Strangers which follow this Court.

Arabia the Happy bounded.

ARABIA the Happy is a great *Peninsula*, which stretcheth it self from the Mountains which divide it from the other two parts of *Arabia* to the *Ocean*, being 3, 4, and in some places 500 Leagues long and broad. The Gulph of

of *Balsora*, and *Ormus*, otherwise the *Persian* Gulph, washes it on the left side; the *Red Sea*, or Sea of *Mecca*, otherwise the *Arabian* Gulph on the right; and the *Oriental* or *Indian* Ocean, which is there called the Sea of *Arabia* on the Front.

Its fertility and commodities.

Arabia the Happy may aptly be so called by reason of the fruitfulness and richness of the Soil, which produceth plenty of *Corn*, *Wine*, *Fruits*, *Odoriferous Spices*, great increase of *Cattle*; also abounding in *Gold*, *Pearls*, *Balsom*, *Myrrhe*, *Frankinsence*, several sorts of *Drugs*, together with divers useful and beneficial Commodities. Also seated in an exceeding healthful and temperate Climate, and inriched with many pure and pleasant Streams and Fountains, whose Waters are Medicinal.

Its People.

These People are very faithful and punctual in their Promises, boasting of their Nobility, as being descended from *Jupiter*; hating any base or mechanical Art, but applying themselves, some to grasing of Cattle, and others to Merchandize. Here it is held Adultery for a Man to enjoy any Woman, save those of his own Kin, as his Sisters, Mother, Cousins, and the like; whom also they take as Wives: Here in this Country are great quantities of *Ostriches*, which for the most part abide in the Desarts.

The Ancients mentioned a great number of different People, Cities, and Kingdoms; and we at this day find the same. The *Turks* possess one part, the *Persians* another, but much less than the *Turks*. The *Sultan*, or *Xecque* of *Mecca*, another; and divers Princes, People, and some Republicks, the rest.

Its chief Places.

Its chief Cities towards the *Red Sea* are, *Medina*, or *Medina-Elnabi*, or *Talnabi*, that is, the City of the Prophet; and *Mecca*: this last the Birth-place, that the Burial-place of *Mahomet*. *Medina*, though scituated in a barren and desolate place, adjoyning on *Arabia* the Stony; yet by reason of its being the Sepulchre of that vile Impostor *Mahomet*, is become a fair City (though not containing above 6000 Houses) being a place of great Trade and resort, by reason of the Pilgrims which hither flock to pay their blind Devotion. This *Sepulchre* or *Tomb*, wherein their Prophet lieth, is enclosed within an *Iron-Grate*, and covered with *Green Velvet*, having the supply of a new one every year from the *Grand Signior*, and the old one being the Fees of the Priests, they cut into little shreds and pieces, which they sell for great Relicks to the Pilgrims, which brings a great Revenue to them. In this Temple there are about 3000 Lamps of *Gold* and *Silver*, wherein is Balsom, and other such rich Odours, Oyntments, and Oils, which are continually kept burning. Thus much for his *Tomb:* now a word or two concerning his *Life*.

Mahomets Tomb.

He was (as I said before) born at *Mecca*, distant from *Medina* about 60 Leagues, seated also in a barren Soil; but of great resort and Traffick, abounding in the Commodities of *Persia* and *India*, which from hence are transported on *Camels* to *Egypt*, *Palestine*, *Syria*, and other parts of the *Turks* Dominions. The City is very fair, filled with about 6 or 7000 well built Houses, having a very sumptuous *Temple*; the place not Walled, except by *Mountains*, between which there are four passages, which give entrance and issues to the City. Here it is made death for any *Christian* to approach within five miles. But to proceed: The Father of this Impostor was an Idolatrous *Pagan*, and his Mother as perverse a *Jewess*; at the age of two years he was left to the tuition of his Uncle, who after he had kept him to the age of 16 years, to quit himself of further charge and trouble, sold him to the *Ishmaelites*, who in their Markets sold him again to a rich Merchant; who at first was employed about servil work, till at last the Merchant perceiving him to be of so ripe a wit and solid judgment, advanced him from his Kitchin to be his Factor, sending him with his *Camels* laden with Merchandize, into *Egypt*, *Persia*, *Syria*, and other places; in which he was so fortunate, that he gained his Master a great Estate, together with no small fame and credit to himself. He was of personage low, but comly, with which his Mistress was so much taken, that upon the death of her Husband, his Master, she soon married him, and endowed him with her wealth. He was much troubled with the *Falling-sickness*, which he said were *Heavenly raptures*, in which he had conversion

A story of the life and death of the Impostor *Mahomet*.

with the Angel *Gabriel*; he was well skill'd in *Magick*, by which he taught a *white Pigeon* which he kept to feed at his Ear, where he put *Barly-corns*; and this *Pigeon* he reported was the *Holy Ghost*, which instructed him in the Law he afterwards published, which was a new Religion, whereby he might bring the *Jews*, *Gentiles*, and *Christians* into one form of Religion; where, in a Cave not far from *Mecca*, with the help of *Sergius* a *Nestorian* Monk, and the aid of a certain *Jew*, he made the *Alcoran*; a Book so highly adored by them, that on the Cover is written, *Let none that are unclean touch this Book.* 3. *Ziden*, seated on the *Red Sea*, and in the midst of all the Coast of *Arabia*, serves for a Port to *Mecca*, from which it is distant 40 miles; well built, rich, and of great resort, which hath been walled and fortified since the *Portugals* have made themselves known, and are become powerful in the East. 4. *Egra*, by the *Arabians* called *Algier*; seated on the *Red Sea*, serving for a Port-Town to *Medina*, from which it is distant about three days Journey.

Mecca, *Medina*, and a good part of *Arabia the Happy* doth belong to *Xeriff*, descended from *Hascem*, great Grandfather to *Mahomet*; and for this reason both the *Turks* and *Persians* do much respect him, suffering him freely to enjoy his Estates without his paying Tribute to either: for on the contrary, the *Turk* causeth to be given him a third part of the Revenues of *Egypt*, that the Pilgrims which go to *Mecca* may be protected against the *Arabs Beduins*, who by their incursions much trouble those quarters; and not only Pilgrims, but likewise Emperours, Kings, and *Mahometan* Monarchs, often make him great Presents. 5. *Zibit*, near the Mouth of the *Red Sea*, is fair, rich, well built, and of a good Trade in *Drugs*, *Spices*, *Perfumes*, &c. It was once the Seat of a Kingdom till the *Turk* seized it, when he did *Aden*, causing the King of this place to be hanged at the Yards-arm of his Ship, and the others head to be strucken off. Seated nigh the *Red Sea* in a large Plain, being the residence of the *Turkish Beglerbeg*. 6. *Aden* is the strongest, fairest, and most pleasant City of all *Arabia*; enclosed with Walls towards the Sea, and Mountains towards the Land. On the top of these Mountains are many Castles of a curious prospect; it hath about 6000 well built Houses, and inhabited by a *miscellany* of People, as *Arabians*, *Turks*, *Indians*, *Persians*, and *Ethiopians*, which here reside for the benefit of that great Trade, which is here driven from several parts of the World. It is scituate without the *Red Sea*, at the beginning of the great Ocean; and by the industry of the Inhabitants is made an Island, fortified with a strong Castle, which commands the Road. This City or Island is now become the Magazine for the Commodities of *India*, *Persia*, and *Arabia*.

Aden, and its great Trade.

Other Cities in *Arabia*.

Above *Aden*, and farther in the main Land, are many fair Cities, as *Laghi*, *Agiaz*, *Almachazane*, *Sanaa*, and others, subject to the *Xecque* of *Mecca*. *Laghi* is not far from the Sea; *Agiaz*, or *Hagias*, sometime gave its name to these quarters. *Almachazane* is seated on the top of a very high Mountain, and of a difficult access; it hath a Cistern capable to hold Water to furnish a 100000 Men: The *Xecque* oftimes keeps Court here. *Sane*, or *Sanaa*, stands at the foot of a Mountain, and is one of the greatest, fairest, and strongest of *Arabia*, having many *Vineyards*, *Meadows*, and *Gardens* within its Circuit. Its Houses are well built, its Vineyards and Gardens well cultivated, its Walls 10 Cubits high, and its Ramparts 20 Cubits thick. Its Territory is watered with many Fountains, produceth excellent Fruits, and feeds the best Horses of *Arabia*.

Kingdom and City of *Fartach*, its People and Trade.

Towards the East, and almost 150 Leagues from *Aden*, is *Fartach*, a Kingdom and City near the Sea, and having a Cape of the same name. The *Turquins* are valiant; and their King defends himself couragiously against the *Turks*, having seen their treatment to his Neighbours of *Aden* and *Zibit*. The Ports of *Dolfar*, (which is the *Turks*) and *Pescher*, are the most renowned of this Coast, and send forth the best *Frankinsence* of *Arabia* in great quantity. Higher on the Coast, and farther on the Land, are the Cities and Kingdoms, or as they call them, the *Sultanies* of *Gubel haman*, *Alibmahi*, *Amazirifden*, and others.

The

Other Cities and Kingdoms.

The rest of the Coast unto *Cape de Raz-al-gate* is very barren; from *Cape de Raz-al-gate* unto that of *Moccandon*, the Soil is the best of all *Arabia*; and some would here alone confine the name of *Hyaman*, which signifies *Happy*. There are here many fair Cities, both on the Sea-coast and higher in the Land; one of chief Traffick between the East and *Arabia the Happy*, was formerly called *Sohar*; but this Trade was after transported to *Ormus* on the *Persian* side. In our time it was restored to the *Arabian* side, to wit, at *Masates*, held by the *Portugals*: *Sohar* and *Masates* are between the Capes of *Raz-al-gate*, and *Moccandon*, and are not above 200 Leagues distant from each other. Within the Land are *Masfa*, a City and Kingdom, *Mirabat*, *Sour*, or *Lyr*, and others.

Beyond the Cape *Moccandon*, and advancing towards the Mouths of the *Tigris* and *Euphrates*, among many other places we have *Elcalif*, or *Al-Catif*, a famous Port, and which communicates its name to the adjacent Gulph, which the ancients called *Sinus Bersicus*, and we at present the Gulph of *Balsora* and *Ormus*.

Near *Elcatif* is *Bahar*, whose Territory is called *Baharem*, or *Baharem*; and the Isle and City before *Baharem*, farther in the land, is *Mascalat*, a City and Kingdom; *Jamen* likewise a Kingdom and City, according to some; *Lazaca*, or *Lassab*, likewise a Kingdom and City, where are of the best Horses of *Arabia*, as at *Sanaa*, *Lassab*, *Elcatif*, and some other are the *Turks*. *Elcatif* is the ancient *Gerra*, and that part of the Gulph nearest the City called *Gerraicus Sinus*, and the Isle of *Barem* is the ancient *Tylos*.

The *Arabs Bedegebres*, a free People.

There yet remains some Cities, of which some have their *Kings*, or *Sultans*; others live in *Republick*; which is very rare in *Asia*. On Towards the middle of *Arabia* are the *Arabs Bedegebres*, a free People, and which live only of the Prey and Tribute they force from their Neighbours; yet posses they 200, or 250 Leagues of Country, and are for the most part in the Mountains. The *Beduins* towards *Mecca* are of the same nature.

Round about *Arabia* are a great number of *Isles* which belong unto it, which are dispersed either in the *Southern Ocean*, *Red Sea*, or the *Persian Gulph*.

Arabian Isles in the Southern Ocean.

In the *Southern Ocean* are found three Isles, which bear the name of *COCCONATI*, seven by the name of *ZEWOBIL*, and two by the name of *Insulæ AGATHOCLIS*; and lastly, *CURIA* and *MURIA*, where there is found *white Tortoises*, whose Shells are great curiosities.

In the *Red Sea* In the *Red Sea* these Islands; 1. *CANARAN*, very low, but fruitful: 2. *DALAQUA*, being the largest of all, in length 125 miles, and not above 12 broad, having a City of the same name, where they gather *Pearls*; And, 3. and lastly, the *Samaritan* Islands.

In the *Persian* Gulph In the *Persian* Gulph these Islands are found: *BAHAREM*, the most famous, because it hath the *Pearl-fishing*, the best in the Oriental parts. This Isle is between *Balsora* and *Ormus*, about a 100 or 120 Leagues from *Balsora*, and 150 from *Ormus*: It is near the Coast of *Arabia*, and directly opposite to the Coast of *Elcatif*, which is the *Turks*; but the Isle of *Baharem*, which is still the *Persians*, once belonged to the Kingdom of *Ormus*. The Waters here are almost all salt; but near *Manama*, the Capital City of the Island, there are Springs of Fresh-water at the bottom of the Sea, which the *Divers* go and fetch, gathering it into *Borracho's* or *Goats-skins*, with much cunning, and bringing it forth of the *Sea*, do afterwards sell it. The *Pearls* of this Isle are very much esteemed, both for their largeness and roundness; and this fishing is yearly worth 500000 *Ducats*, besides the value of 100000 and more, which is diverted. Those of the Isle of *GIONFA* are of no great value: those of the other neighbouring Isles are less; except it be at *MASCATES*, 60 Leagues from *Ormus*. They fish here all *June*, *July*, and *August*; if they begin sooner the *Pearls* are unripe, and not hard enough.

The Air of all *Arabia* is very healthful, but hot; nor Rains it in some places above twice or thrice in 3 or 4 years: but the abundance of the Dew makes their Fruits excellent.

The People of *Arabia*; their Manners, &c.

The People for the most part are of a mean stature, lean, swarthy complexioned, effeminate voices, very swift of foot, and expert in the Bow and Dart. They first exercise themselves in Manufactures, using all sort of Trade and Traffick far off; and some addict themselves to Learning, particularly to *Philosophy*, *Physick*, the *Mathematicks*, and to *Astrology*; there have been amongst them many *Grammarians*, *Rhetoricians*, *Historians*, and *Interpreters* of the *Alcoran*, which is in their Tongue, and which hath made the *Arabick* Language spread itself through all the East, at least in the most Southerly parts of *Asia*, and part of *Africa*, but little in *Europe*.

Those which range the Country are great Wanderers, and greater Thieves; they are divided into many Families, which know each other, and how to distinguish the one from the other. Every Family, how numerous soever it be, hath a principal *Xecque*, that is, a Chief, which conducts and commands them, they living almost in the same manner as the 12 Tribes of *Israel* did in the *Desarts*. They preserve a good Intelligence amongst themselves, their chief design being only upon Strangers. They assault likewise the *Caravans*, if they think themselves able enough to master them, or snatch any thing from them.

Their *Horses* commonly are little, lean, and sparing Feeders; yet couragious, swift, and of great labour: They are so skilful in managing them, that they command them as they please; and themselves are so active, that at full speed they will shoot an Arrow within the breadth of a Shilling, take from the ground those Arrows they have shot, and avoid an Arrow flying directly towards them; nor do they manage less skilfully the Sling, either in charging, retiring, or flying.

The first rise of *Mahometism*.

Mahomet came not into the World till about the year 570 after *Christ*, and began not to publish and shew abroad his Doctrine till a little after the year 600; a Doctrine intermixed with *Christianity*, *Judaism*, and *Paganism*, that he might draw both the one and the other; and which established its principal end in Delights, carnal and sensual Pleasures, whereto the Oriental People were very much inclined; and withal he found the means to make use of Arms for the establishment of this Doctrine; his *Califs* or Successors in a short time carried their Government and Religion into the best parts of *Asia* and *Africa*, and into some places of *Europe*.

Its People are almost all *Mahometans*. There are some *Greek Christians* towards the Mounts of *Sinai* and *Horeb*; likewise towards the *Red Sea*, and in the Desarts of *Arabia* the Stony, and *Arabia* the Desart. *Arabia* the Happy is unhappy in having the fewest; yet the *Portugals* hold *Mascates*, *Calasates*, and some places about it, which are *Catholicks*.

PER-

PERSIA, or the Empire of the SOPHY of PERSIA, with its several Provinces, as they lie

- Towards the CASPIAN Sea, or Sea of BACCU and SALA, which makes the Northern part of PERSIA; and are those of
  - Servan, — Tauris, Sammachi, Servan, Ardevil, Serge, Bacca, Bakoera.
  - Gilan, — Rasi, Gazhar, Mazandaran, Layon, Mosun, Gilan, Cassabi, Gadiour.
  - Dilemon, — Allamoed, Dilemon, Thalekan.
  - Tabarestan, — Aferabad, Zariach, Moglasen.
  - Gorgian, — Gorgian, Odicon, Dame[illegible], Semn[illegible].
  - Rhoemus, — Bestan, Beyad, Zabrawar, Thous, Massinon, Feraway.
  - Churdistan, — Nakshvan, Merend, Choy, Maraga, Salmas, Oulmaya, Cormaba.
  - Ayrack, or Yerack-Agemi, — Hispahan, Casbin, Saksanie, Dinkane, Hamadan, Hirey, Sauwa, Kom, or Com, Kargh, Cassan, Yesd.
- In the MIDDLE; to wit, those of
  - Chorasan, — Thabs Gilack, Kayem, Thos, Zuzan, Mexar, Nichabour, Zarchas, Firabad, Maruwe, Bonregian, Balch, Herat.
  - Sablestan, — Zarang, Bost, Necbesaer, Gisna-Cassaby.
  - Tochareſtan, — Thaalan.
  - Candahar, — Candahar.
  - Patanes, — Grees.
  - Bach, — Balch.
- Towards the South, and washed by the ARABIAN, or INDIAN Ocean; and by the Gulph of BALSORA and ORMUS; and are those of
  - Chusistan, — Souster, Askar Moukeran, Ardgan, Hawecz, Ramhormoz, Siapour, Szurac.
  - Fars, — Chiraef, Astackar, Lar, Darabegred, Stahabonon, Gombroun.
  - Kherman, — Cherman, Giroft, Zirgian, Mocheston, Guadel, Nahyan, Patanis.
  - Sigistan, — Sistan.
  - Mackeran, — Mackeran, Basir.
- Together with several ISLES, as they lie in the Gulph of BALSORA, and nigh unto PERSIA: the chief among which are,
  - Ormus, — Ormus.
  - Queixome.
  - Pulor.
  - Coyar.
  - Ficor.
  - Lar.
  - Mulugen.
  - Garge.

PER-

PERSIA.

THe Kingdom or Empire of the *Sophy* of the *PERSIANS* is one of the most famous and greatest of all *Asia*; it extends it self from the *Tigris* and *Euphrates* on the West, almost to the River *Indus* on the East; and from the Gulph of *Persia* and the *Arabian* and *Indian Sea*, which bounds it on the South, unto the River *Gehon*, and to the *Caspian Sea*, now the Sea of *Baccu*, or *Tabarestan*, which are its Northern limits; so containing about 800 Leagues of length, and 500 of breadth, being seated under the third, fourth, fifth, and sixth *Climats*. Nevertheless this is but a part of the ancient Empire of the *Persians*; for the *Assyrians* having ordinarily held in *Asia* all that which both *Turk* and *Persian* at present possess; and that Monarchy having begun under *Ninus*, and lasted under thirty and odd Kings 13 or 1400 years, ending in *Sardanapalus*, divided itself into that of the *Medes* and *Babylonians*, who continued it little less than 300 years, afterwards the *Persians* made themselves Masters of it: and these during 200 and odd years, which they Reigned, remitted to it the best part of what the *Medes* and *Babylonians* had possessed. But when they would have passed into *Europe*, and have seized on *Greece*, the *Macedonians* and *Greeks* leagued themselves together, and naming *Alexander* King of *Macedon* their Chief, descended into *Asia*, several times defeated *Darius*, ruined the Empire of the *Persians*, and gave a beginning to that of the *Macedonians*.

The extent, bounds, situation, &c. of *Persia*.

The *Persian* Empire formerly much larger than now it is.

Alexander the Great held this Empire but few years, and dying, it was divided among many of his Captains; who took in the end the title of *Kings*, and waged War against each other, till the *Romans* seized the Western, and the *Parthians* the Oriental part of that Monarchy; these *Parthians* freed themselves from the Rule of the *Macedonians* 250 years before the Birth of *Jesus Christ*, and Reigned near 500 years. *Artaxerxes* restored the *Persians* 228 years after *Christs* Nativity. The *Caliphs* of *Bagdat* became Masters about the year 650. The *Tartars* in 1257, or 58. The *Turcomans* in 1478. *Xa*, or *Xecque Ismael-sophy* re-established the *Persians*, a little after the year 1500; and though they possess only the Oriental part of the ancient Empire of the *Persians*, yet it is still very great and powerful.

The several Parts, or Regions of *Persia*.

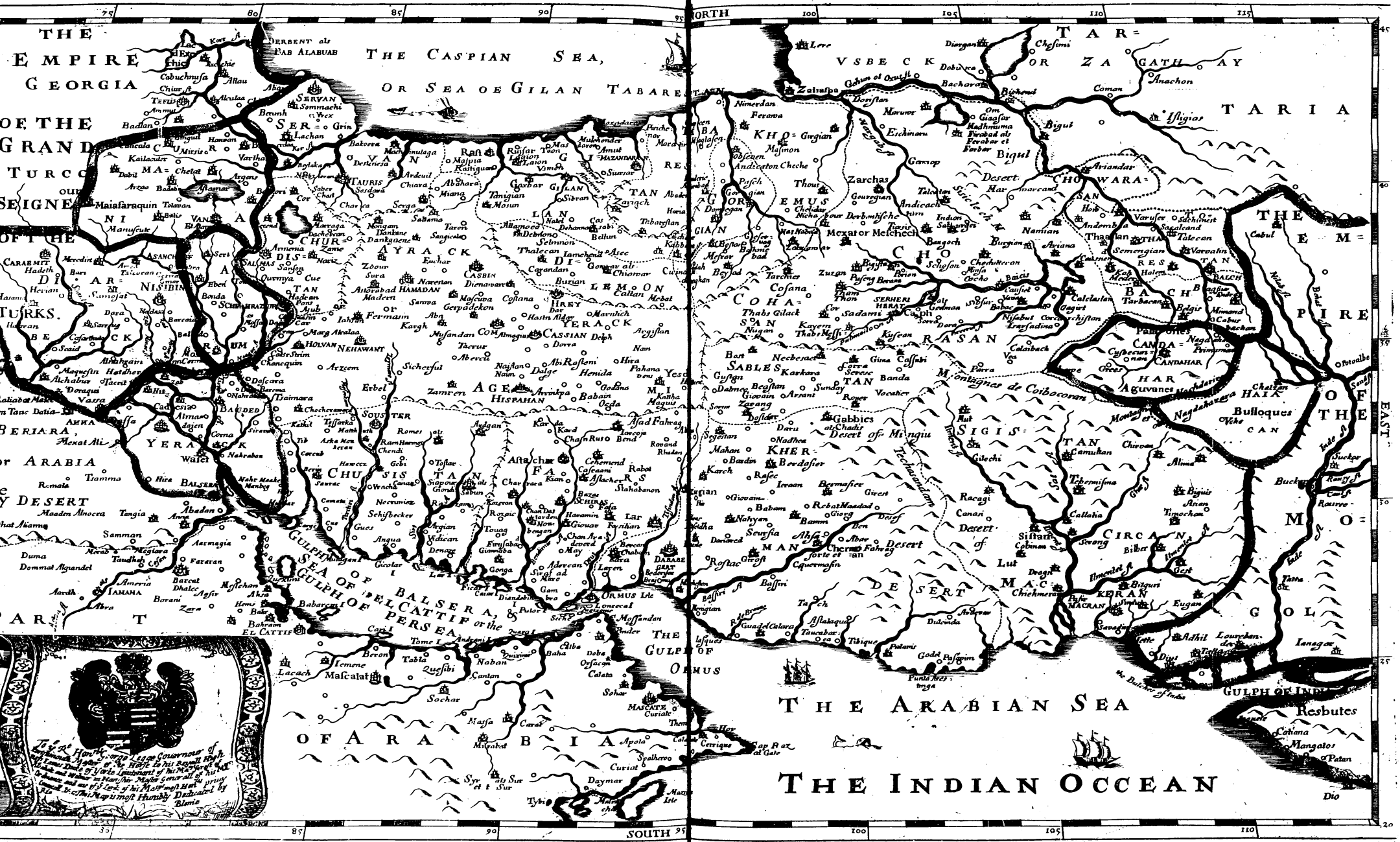
And we find at present under it, all that the Ancients knew under the names of *Media*, *Hircania*, *Margiana*, *Assyria* in part, *Parthia*, *Aria*, *Paraponisa*, *Chaldea*, or *Babylonia* in part, *Susiana*, *Persia*, *Caramania*, *Drangiana*, *Arachosia*, and *Gedrosia*; all these Regions taken apart being great, fair, rich, and populous.

The Province of *Servan*.

The Province of *SERVAN* hath for its principal City, 1. *Tauris*, being the Summer-Seats of the *Persian Sophies*, containing in Circuit about 16 Miles, and including above 150000 Inhabitants, before its being so often taken, and retaken by the *Turks* and *Persians*. It is strongly fortified, seated about six days Journey from the *Caspian Sea*, in a cool and wholsom Country, and encompassed with several great Towns of note, famous for their Manufactories. The People in this part being more addicted thereunto, than unto the Sword.

Its Commodities.

The Commodities that are here found, are *Silk*, raw, and in several Manufactures; *Cottons*, *Wool*, *Galls*, *Alum*, some *Spices* and *Drugs*, with several other Commodities. 2. *Summachi*; And, 3. *Servan*, once both the Metropolis of



A MAPP OF THE EMPIRE OF THE SOPHIE OF PERSIA, WITH ITS SEUERALL PROUINCES. Designed by Monr Sanson Geographier to ye French King

Metropolis of this Province, abounding in *Silk* and excellent *Carpets*, to which the People are wholly addicted. 4. *Ardevil*, was the Signory and Birth-place of *Xeque Aidar*, Father *Ismael-Sophy*, who restored this Empire to the *Persians* about the year 1500. Here are many Tombs of the last Kings of *Persia*. 5. *Bocca*, a place of so great trade, that the *Caspian Sea* oft takes its name. Near the City there is a Spring of *Black Oil*, which serves to burn throughout all *Persia*.

Province of *Gilan*, and its chief places, &c.

The Province of *GILAN*, or *GUETLAN*, contains five Governments, of which the chief Cities are *Rast*, *Gaxbar*, *Layon*, *Gilan*, *Mosun*, and *Gadiour*, besides about 30 fair and rich Cities; *Mazandaran*, which some separate from others joyn to *Gilan*, hath in its Government 25 Cities, and in the City of *Mazandaran* about 50000 Souls. All these quarters would have revolted in 1594. but *Xa Abbas* soon brought them to their duty, and chastised them for their offence.

Province of *Dilemon*.

The Province of *DILEMON* hath its Metropolis of the same name; then *Allamoed*, *Gowar*, and *Thalekan*. In the description that those of the Country give us of these places, *Allamoed* seems to answer to *Dilemon*.

Province of *Tabarestan*.

The Province of *TABARESTAN* extends more than 60 Leagues on the Coast of the *Caspian Sea*, which is often called *TABARESTAN* from the name of this Province. It stretches 100 Leagues up the Land, containing in its Territory 12 fair Cities; of which *Asterabat*, or *Starabat*, which hath something of common with the name of the Province, is the principal; then *Maglasen*, *Zari*, *ab*, and others: this Country affords quantity of *Silk*.

Province of *Gorgian*.

The Province of *GORGIAN* touches not the Sea, the chief City is of the same name; then *Obscoen*, *Damegan*, and *Semnan*. *Gorgian* answers to the ancient *Hircania* Metropolis.

Province of *Rhoemus*.

The Province of *RHOEMUS* is in the East of *TABARESTAN* and *GORGIAN*. Its chief Cities are, 1. *Bestan*; then 2. *Beyad*; 3. *Zabzawer*; and 4. *Thous*, higher in the Land; 5. *Feraxway*; 6. *Masinou*, and others toward the Sea and Mouth of the River *Gehon*. *Nassir Eddin*, that excellent *Mathematician*, was a Native of *Thous*, who drove *Mustalzin* from his *Caliphat* or dignity of *Babylon*, because *Mulstalzin* had demanded of him, *Where were his Horns*. So dangerous it is to mock a man of Spirit and Courage. The City of *Thous* is esteemed very considerable, being large, and encompassed with a noble Wall, adorned with stately Structures, and among others with about 200 or 300 Towers, distant from one another a Musquets shot. It is famous for the stately Sepulchre of *Iman Rida* of the Family of *Ali*, one of the Twelve *Persian* Saints, where great Devotion and Ceremonies are performed by them, which brings in a great Revenue to this City.

Province of *Churdistan*.

The Province of *CHURDISTAN* is divided into three Parts or Provinces, of which *Salmas* is the chief City of the first, *Maraga* of the second, and *Cormaba* of the third. Besides which there are a great number of fair Cities, as 1. *Nakzowan*, 2. *Chey*, 3. *Guiencheh*, 4. *Shimi*. Near the Shimi Lake of *Kannudhan*, which yields Fish only at a certain time of the year. This City hath under its Jurisdiction 20 other strong and fair ones; yet is not without those wandring People which live under their Tents. *Maraga* is 3 or 4 days Journey from *Tauris*, 5 or 6 from *Salmas*. Near *Maraga* the *Persians* were defeated by the *Saraxens*, about the year 650; and their Monarchy fell into the hands of the *Califfs*. *Cormaba* is on the East of *Tigris*, and not far from *Bagdad* and *Mosul*. Its Inhabitants are esteemed the true *Curdes*, as good at incursions as the *Arabs*, who lose nothing they can catch. Near *Chey* are the *Calderonian* Champains (of *Chaldea*,) renowned for the Battle between *Selim*, Emperour of the *Turks*, and *Ismael Sophy* of the *Persians*; where this last, who had till then almost always been Victor, was defeated and lost a great Battel; and after it *Tauris*, where was his wife *Talhuansad* and his Treasures: but whilst he prepared new Forces, the *Turks* retired to *Amasia*. At *Guiencheh*, formerly a City and a Kingdom, contains likewise 7 or 8 fair Cities, the *Can Caidgeli* caused to be builded one of the fairest and strongest Towers that is in *Persia*; besides the Stone, making use of the Heads of

of 540000 *Turks*, which he had defeated in those quarters, and which he caused to be bruised among the Morter.

Province of *Ayrack*, its Commodities, &c.

The Province of *ATKACK* is the fairest and richest of *Persia*. The *Sophies* have for sometime past made here their residence; formerly at, 1. *Casbin*, at present at 2. *Hispahan*, which are two great Cities; 3. *Cassian*, 4. *Hamadan*, 5. *Dankana*, 6. *Sauwa*, 7. *Com*, 8. *Yesd*, 9. *Soltania*, 10. *Hrey*, 11. *Cochera*, 12. *Kargh*, with several others, are likewise very fair. Near *Hrey* is gathered excellent *Manna*. *Soltan* hath great quantity of the fairest Fountains, and takes its name from the *Soltans*, which sometimes resided here. *Yesd* yields the richest and fairest *Tapestries* in the World. Near this City, and on the Mountain *Albors*, there are yet some worshippers of *Fire*, which have used it above 3000 years. *Hamadan* hath born the title of a Kingdom, and had 15 Cities under it. *Cassian* produceth many *Silk* and *Cotton* Manufactures, and hath drawn to it all the Traffick that was at *Com*, not suffering any Vagabonds or Beggars. *Com* hath been as great as *Constantinople*; but *Tamerlain* having ruin'd it, it could never regain its splendor. The Inhabitants addict themselves to labour in their Vineyards and Gardens. Its Bridge is of Stone, and the fairest in all *Persia*. *Casbin* was the residence of *Xa-Thamas*, when the *Turks* had taken *Tauris*: Some esteem it the ancient *Arsacia*, others *Ecbatana*. It is not well built, but great, and filled with no less than 100000 Souls; its fair *Palace*, its many *Bazars*, and its *Atmaiden*, are remarkable. *Bazars* are places or great Streets, where there are but one sort of Merchants; the *Atmaiden*, or greater Market, which is about a mile in Circuit.

Hispahan the chief City of *Persia*.

Hispahan, the Metropolitan City of the *Persian* Monarchy, seated in the *Parthian* Territory, which in its scituation is pleasant and delightful; in its Soil, fruitful, and well watered by the River *Syndery*; in its Air, serene and healthful; and for bigness, is now become the greatest City in all *Persia*, whose Walls are in circumference a reasonable days Journey. Its buildings, which are many, (scarce containing less than 75000 Houses) are proud and elegant, and was said to be once so populous, that it gave entertainment to 500000 Inhabitants. But after a certain Revolt, (for which they were severely chastised by the command of the Prince) it hath not had so great a quantity of People; yet it is exceeding populous, and much frequented by Strangers; rich in Trade, eminent for all sorts of Exercise, and more magnificent as being the residence of the *Sophy* of the *Persians*, who had here built divers Palaces, which are inhabited by his Nobles; so rich and stately, with Gardens so delightful and magnificent, that not the industry of man, nay, scarce his thought can comprehend or imagine any thing more beautiful. This City, besides its Walls, is fenced about with a Ditch, and defended by a strong Castle. The chief buildings are the *Palaces*, the *Mosques*, the *Hummums* or *Hot-houses*, and the *Mydan* or *Market-place*, which without dispute is the fairest, richest, and noblest Building in the World, being about 1000 Paces in length, and 200 in breadth: The inside resembles our *Exchange*, being filled with Shops, where all sorts of rich Commodities are vended; and sustained by Arches; and below, furnished with such things, both for Food and Rayment, as the Country affordeth. On the West-side are seated two stately *Palaces* or *Seraglio's*, for the King and his Ladies, far exceeding in state and magnificence all other the proud Buildings in this City; the Walls being of *Red Marble*, and pargetted with divers colours, and the whole Palace paved with fretted and Checkered work, over which it is spread with stately *Carpets*; the Windows are made of *Alablaster*, and *white* and *spotted Marble*; and the Posts and Wickets of massy *Ivory*, checkered with glittering *Ebony*, so curiously wrought in winding knots, that it may sooner stay than satisfie the eyes of the Beholder. To which stately Structure there is joyned a no less pleasant and delightful Garden, wherein are no less then 1000 several Fountains, Brooks, and Rivolets, furnished with store and variety of curious Fruits, together with what else may make a place delightful. The great place of the City is before the Palace, where the *Sophy* ordinarily resides. The Fruits in and about this City are the best in the World; their Vines yield in nothing to those of the *Canaries*:

Its Palaces and Seraglio's, exceeding stately and delightful.

Their

Their *Horses* and *Mules* are fair and good; their *Camels* so strong, that they carry almost twice as much as those of other places. They have permitted in this City some *Monasteries* of *Christians*, as of *Carmelites*, *Augustine Fryars*, *Capuchins*, and others.

The Inhabitants do all their affairs on Horse-back; as well publick as private, in the buying and vending of their Commodities. But the Slaves never ride; which makes the difference betwixt them. This City being the residence of the *Sophy*, and being inhabited by so many eminent persons, which always attend this Monarch, makes it to have a great Trade, and be much frequented by Merchants almost from all places; as *English*, *Dutch*, *Portugals*, *Arabians*, *Indians*, *Turks*, *Jews*, *Armenians*, &c. whereby it is furnished, not only with all the Native Commodities of *Persia*, as *Gold* and *Silver*, *Raw Silk*, in such great quantity, that they furnish most part of the East; as also other places, some *Drugs* and *Spices*, *Wine*, *Fruits*, &c. Also sundry curious *Manufactures*; as, *Carpets*, *Arras-work*, *Hangings*, &c. *Cloth* of *Gold* and *Silver*, Fine *Cotton Cloths*, with several other Commodities which are here made; but also with those of *Arabia*, *India*, *China*, and *Turky*, which hither are brought in exchange for theirs, by *Caravans* or *Camels*; *Dromedaries*, and *Mules*, by reason they want the benefit of the *Sea*. They had formerly the benefit of several good Ports, as, *Tauris* and *Balsora*, but now in the custody of the *Grand Seignior*, together with some others: The Ports that they now enjoy, and make use of, are *Ormus* and *Jasques*. In this City is erected a *Column* or *Pillar*, composed of the Heads or Skulls of *Men* and *Beasts*, being about twenty foot in circumference at the *Basis*, and exalting it self near sixty foot in height. Now the reason of erecting of this terrible and horrid *Column* and *Monument*, was this. The People surfeiting with Luxury, through their Pride and Impudence, denied their duty to their Soveraign, not only in refusing to contribute a small sum of money (being towards the extirpation of the *Turks* and *Tartars*, who did much annoy the Kingdom) but also audaciously opposed his entrance; whereupon he vowed revenge: And having made a forcible entrance, in his rage fired a great part of the City, pillaged each House, and in two days he put to the Sword near 30000; and to terrifie others, erected a *Column* or *Pillar* of their Heads.

The Inhabitants of this City negotiate their affairs on Horse-back. *Hispahan* and its Commodities.

Province of *Chorazan*, its chief Cities & Commodities, &c.

The Province of *CHORAZAN*, is the greatest of all *Persia*; some divide it into *Cohazan*, *Chorazan*, and *Chowarazan*, which others esteem to be the same. It hath every where a great number of brave Cities, as, *Kahen* or *Kayem*, which yields great store of *Saffron*. 2. *Thon* abounds in *Silk Manufactures*. 3. *Mesched* or *Mexat*, is the chief of *Chorazan*, and shews the Tombs of many *Persian* Kings. It is about twelve miles in compass, and hath about 100000 Inhabitants. Its Territory is fertile, its Inhabitants well made, strong, and warlike. 4. *Herat* is likewise called *Salgultzar*, that is, The City of *Roses*; it producing greater quantities then any City in the World besides. It yields likewise *Rhubarbe* and *Vines*, which last a long time: and so much *Silk*, that there are sometimes 3 or 4000 *Camels* loaden in one day. 5. *Nichabour* so near to *Rhoemus*, that some conceive it belonging to it; others make it a particular Province: The City hath been much better peopled then now it is. *Tamerlane* here, and hereabouts, put to death in one day about 400000 persons. 6. *Bouregian*, is near a great Lake of the same name: This Lake receives many Rivers, but like the *Caspian Sea*, sends not one to the *Ocean*: But let us return to the more Southerly parts of *Persia*; we will say nothing here of *Terack*, since the *Turk* at present holds it, with several others.

Province of *Chusistan*, its chief places, &c.

The Province of *CHUSISTAN*, answers to the Ancient *Susiana*, the Soyl is so fruitful, that it often yields 100 or 200 for one. Its Cities are *Souster*, *Ardgan*, *Haweez*, *Asker-Moukeran*, and others. 1. *Souster* is the Ancient *Susa*. Here the Prophet *Daniel* had the *Vision* concerning the determination of the *Persian* Monarchy, and the beginning of the *Grecian*; and where *Ahasuerus* kept his great Feast, which continued 183 days, for his Princes and Lords, imitated to this day by the *Sultans* of *Persia*, who do annually entertain their Nobles, where *Ahasuerus* kept his Court, when *Esther* demanded

 grace,

grace, in favour of the *Jews*; andt here where *Mordecai* was exalted to the place and charge of *Haman*, who was hanged on the same Gibbet which he prepared for *Mordecai*. It is held, that the ancient Palace was built by *Memnon* (Son of *Tithonus*, who in the *Trojan* Wars was slain by the *Thessalans*,) of the spoyls of the Great *Thebes* in *Egypt*; and that with such expence and magnificence, that the stones were bound together with *Gold*; but whether this be true or false, without doubt, it was very rich; for it is said, that *Alexander* found here 50000 Talents of uncoyned *Gold*, besides *Silver Wedges* and *Jewels* of an inestimable value. This City is of about 25000 paces in circumference, and is the residence of the *Sophy* in the Winter season. 2. *Ardgan* a fair City, on the borders of this Province, and not far from *Hispahan*. 3. *Hawecz* called by the *Arabian* of *Nubia*, *Ahuaz*, and made chief of the Cities of *Chusistan*, which he calls *Churdistan*. He places next to it *Askar-Mocran*, *alias Askar-Moukeran*, on the River *Mesercan*, where there was a Bridge supported by twenty Boats. 4. *Tostar* with a River of the same name. And 5. *Sauz* with some other.

The Persians observe great Feasts.

The heats in these parts, in the Summer season, are so great, especially towards the South part of the Mountain; that the Inhabitans are forced to forsake the Cities, and retire themselves into the Mountains for coolness.

Province of Fars, its chief places, fertility &c.

The Province of *FARS* or *FARC*, formerly *Persia*, now a particular Province, hath a great number of large, rich, and beautiful Cities. As 1. *Chiraef*, which is said to be about 20000 paces in circumference; where sometimes the *Sophy* hath made his residence, scituate in a large and pleasant Plain, well built, and beautified with fair Gardens, and magnificent *Mosques*. Two of which are larger than the rest, and beautified with two Spires or Steeples, covered with a painting of *Gold* and *Azure*: These *Mosques*, by reason of 1000 Lamps which are kept burning, are as light by night, as by day. This City for its good Wine, pleasant Fruits, gallant People, and above all, for its pritty Women, may compare with the best in all *Persia*. The Ladies here are so fair and pleasant, that *Mahomet* passing through these quarters, would not enter this City for fear lest he should lose himself in its delights. The Soyl is very good, and *Mastick* is gathered in its Forests. The Arms they make here, are excellent. 2. *Astachar* was one of the greatest of these quarters, as likewise in the time of the *Arabian of Nubia*. The ruines of its Castle *Chilminare*, shew the romains of the ancient Palace that *Alexander* the Great burned, at the solicitation of the Curtisan *Thais*. At the taking of which City, *Alexander* for his share found 120000 Talents of ready money, besides the Plate, Images of Gold and Silver, and Jewels of a vast value: But its beauty did surpass it riches, having its Royal Palace built on a Hill, environed with a treble Wall; the first in height fifteen cubits; the second 30; and the third 60: All of them of Black polished *Marble*, with stately Battlements, on which were 600 Turrets. Nor was the outside more stately than the inside, which was built with *Cypress* Wood, and beautified with *Gold*, *Silver*, *Ivory*, *Amber*, and such like. 3. *Lar* or *Laar*, hath been the chief of a Kingdom, and giveth name to the *Larins*, Pieces of very good *Silver* which they coyn. 4. Near *Stahabonbn*, a pritty Town, the *Momiaki-Koni*, that is, the precious *Momy* is drawn out of a Rock; but it is onely gathered for the *Sophy*, who carefully keeps it. Being a most assured counter-Poyson or Antidote, and an excellent Salve against all Cuts or Ruptures, even within the body. *Bezar* comes likewise from this quarter. 5. *Chabonkera*. 6. *Darabegerd*: and 7. *Baesd*, are on the confines of *Fars* and *Kerman*. Some esteem them under the Province of *Fars*, others under that of *Kerman*; others make that a particular Province, which takes its name from the first of them, and which certainly is the greatest and the fairest. *Darabegerd*, as I believe, is the *Valasegerd* of the *Arab*, and the ancient *Pasagardæ*; there, where sometime resided, and where was the Tomb of *Cyrus*, who here by this place defeated *Astyages*, the last King of the *Medes*. And 8. *Gombrone*, seated on the Gulph of *Persia*, a fair Town, well frequented; and where the *English*, *Dutch*, and *Portugals*, keep their

their *Factories* for the benefit and support of the Trade; this place being now the Scale of Trade for all *Persia* (as was formerly *Ormus* and *Jasques*, being at present of little use.)

Province of Kherman, its Commodities, of chief places, &c.

The Province of *KHERMAN*, of old *Caramania*, is one of the greatest, but not one of the best of *Persia*; yet they send forth several *Commodities*, as *Steel*, *Tarquesses*, *Rose-water*, *Tutty*, *Bourbatan*, *Hebe*, or *Kilworm*, which they make the *Confection Alkermes*, *Sarmack*, which are black and shining *Stones*, which cures sore eyes, and paints black. *Carpets* the best in *Persia*, after those of *Tesed* (those of *Chorazan* hold the third degree.) *Arms* which the *Turks* buy at any rates, and *Scimitars*, which will cut a *Head-peece* without blunting the edge. The Country is somewhat uneven and Mountainous, which causeth barrenness; but the Vallies are very fertil and delightful, every where adorned with *Flowers*, and especially *Roses*, of which they make a great Revenue. Amongst its Cities, which are many, 1. *Cherman*, which communicates its name to the Province, makes a great quantity of *Cloth* of *Gold* and *Silver*; As also those *Scimitars* aforementioned. 2. *Zirgian*; 3. *Nahyan*, and others, are likewise in some reputation; but the Coast of *Ormus* is of great esteem, after it *Mochestan*. 4. The City of *Ormus* is seated in an Isle at the Mouth of the Gulph of *Persia*, being in compass about 20 miles; the City well built, and strongly fortified, seated at one end of the Isle, being in compass about two miles, adorned with a fair Market place, and some Churches; famous throughout the World for the great Trade, there negotiated; but of itself, exceeding barren, and only composed of Salt Rocks, of which their Houses and Walls are made; and in the *Summer*, is found so excessive hot, that the Inhabitants are forced to ly and sleep in *Wooden Cisterns* made for the purpose, and filled with Water, where both the Men and Women ly naked up to their Chins. In this Island there is no fresh Water, but what they fetch from other places there adjoyning, which they keep in *Cisterns*; from whence they likewise get other Provision for their Food, being seated not above 12 miles from the Continent. The *Commodities* that are here found, are the rich *Gems* and *Spices* of *India*; The *Tapistries*, *Carpets*, &c. of *Persia*; the *Grograms*, *Mohairs*, and *Chamblets*, of *Turky*; the *Drugs* of *Arabia*, &c. The People hereof, in their Religion, in their persons and habit, have something of the *Arabians* in them, but more of the *Persians*. 5. *Mochestan* is the ordinary residence of the Kings of *Ormus*, because it is cool, its Waters excellent to drink, and its Land fruitful in Corn and Fruits, which is not found in the Island. 6. *Guadell*: and 7. *Patanis*, are the most famous Ports of the Coast.

The Isle and City of *Ormus* with its Trade and Commodities.

The People of *Ormus*.

Province of Sablestan.

The Province of *SABLESTAN*, inclosed with Mountains, between *Chorazan* and *Khermon*; it answers to *Caramania Deserta*; yet it hath many Cities and inhabited places, amongst others, *Zarany* towards *Khermon*. 2. *Bost*. 3. *Nechesaet*, and 4. *Gisna-Cassaby*, towards *Chorazan*. Some place here *Balasan*, from whence come the *Balais Rubies*.

Province of Sigistan, Sistan, Candahar, and Mackeran.

The Province of *SIGISTAN*, *SISTAN*, or *SAGESTAN*; *PATANES*, *CANDAHAR*, and *MACKERAN*, are the most Easterly Provinces of all *Persia*, and nearest the mouth of the *Indus*. *Sistan* is the chief City of *Sigistan*; *Mackeran* of *Mackeran*, which is seated on the Sea; and also *Basir*, which seems to keep its ancient name *Parsis*. The River *Ilmenel*, waters all these Provinces, and falls into the *Indian Ocean*, not far from the Gulph of *India*. Also *Grees* is the chief of *Patanes*, and *Candahar* of *Candahar*.

The Neighbors of the *Persians*.

These are the Estates of the *Persians*, and we are to observe, that his principal neighbours are, the *Turks* on the *West*, the *Tartars* on the *North*, the *Mogols* on the *East*, and the *Portugals* on the *South*, in and about the *Gulf* of *Ormus*. These last cannot deprive him of any great part, their design being only to maintain their commerce in the *Indies*, yet they cease not to perplex him on the *Sea*; and have divers times taken and retaken *Ormus* from him. The *Mogols*, the *Tartars*, and the *Turks*, are troublesom neighbours unto him, and oft times his Enemies; because they are powerful and capable to seise on whole *Provinces*; which he recovers rather by strength, then otherwise:

For it must be confessed, that the *Persians* are more Active in their Arms, then all their Neighbours, except the *Portugals*: And they are likewise esteemed more courteous to strangers, more civil in their conversation, and more exact in their Policy and Government, then all the *Mahometans*. And if we would compare the manners of the *Turks*, with those of the *Persians*, we should find a great difference, and often much contrariety: For the *Persians* are courteous to strangers, the *Turks* abusive: The *Persians* esteem study, the *Turks* neglect it: The *Sophies* of the *Persians* hold in honor, their Brothers and Kinsmen, the *Turks* oft put them to death: The *Persians* have amongst them great quantity of Nobles, the *Turks* make account of none but the Officers sent them from the Port: The *Persians* have the Cavalry, the *Turks* the better Infantry: both the one and the other are *Mahometans*, but they explain their *Alcoran* so diversly, that that alone is capable to carry them to the ruine of one or the other Empire, if they could effect it; and it seems, that the disposition of the one, and the other estate is very different, caused by their contrary manners, which makes them follow Maxims quite different from one another.

The *Persians* much different from the *Turks*.

The Empire of the *Turks* is divided into many parts, cut asunder by several Seas, one upon the neck of another, and bygre at navigable Rivers; as the *Danube* in *Europe*; the *Nile* in *Africa*; and the *Euphrates* in *Asia*; which gives it great advantages, both for Trade, and the transport of its Forces: Whilst the Empire of *Persia*, consisting of an entire and solid Mass, full of Mountains in the middle of the Countrey; few navigable Rivers, and those which are distant one from the other, and falling into divers Seas, that they can have no communication one with another. Trade cannot be commodious, but abroad; and if they have occasion to transport any Troops from one Coast to another, it cannot be done without the expence of much time and pains: And it is for this reason, the *Persians* serve themselves more of Cavalry, who at a need, are able to put into the field One hundred thousand Horse, and they have for the most part ready, 30, 40 or 50000: They entertain little Infantry, and those for the most part are strangers.

The *Persian* forces consists in Cavalry.

The Empire of *PERSIA*, is of a large, and of so different a nature, as one would not take it to be the same, being in some places very barren, cold, and comfortless, scarce affording either Food for Man o rBeast, as are the *North* parts which ly betwixt *Mount Taurus*, and the *Hircanian-sea*, whereas *Southerly* it is very fruitful, the Soil rich, affording plenty of Corne, Wine, and all things necessary for the use of man, being pleasant, full of rich Pastures which are stored with abundance of Cattle, the Country watred with streams. The *Persians* are of a low stature, yet have great limbs, and strong, they are of an *Olive* colour complexion, hawked nos'd, and black hair'd, which they shave every eight days, and those which have not black hair naturally, by art make it so, as being in great esteem amongst them, they paint their hands and nails of a reddish colour. In their habit they follow much of the *Turks*, their clothes have no proportion to their bodies, hanging loose and large, much in the fashion of the Womens; their *Mendits*, by the *Turks* called *Turbants*, are made of *Cotton*, *Cloth* or *Silk*, *Stuff*, which is fine and of several colours, which they wear on their heads, as we do Hatts, many of them wear them of Red, but the Priests, as also his other Garments are white, their Garments they girt about their waists with a Scarf; under these Garments they wear breeches like our drawers, their stockings are for the most part made of Cloth without any shape in them their shoes are picked toed, and like slippers; by reason of their often putting them off and on, not wearing them in Houses. The Women wear much finer Stuffs then the men, and have nothing to ty about their waists, their drawers, stockings, and shifts are like those of the men; they wear their hair loose about their shoulders in several tresses, having no other Ornament except it be 2 or 3 rows of *Pearls*, which they fasten to their fore-head, and so hangs down on each side of their face to be fastned to their chin; the young Maids wear rings, and bracelets about their hands and armes, also rings with precious stones in their right nostrills, as the *Tartarian* Women do. The Women in the Streets goe with white Vails over their faces, down to their knees. The People in this Nation

The Empire of *Persia* of a different Soyl.

The People of *Persia*, and their habits.

tion as well Men as Women, according to their degrees in honour, or riches do exceed in costly habits, in which they are exceeding neat and curious, not admitting so much as a spot upon their Clothes, which neatness they likewise observe in their Houses, which are for the most part well furnished; as also in their meats and drinks, which are excellent, delightful and curious. They are great dissemblers, and much addicted to ill language if provoked to it. They are of a good nature, and very sensible of kindness done to them; but where they hate, are mortal enemies: They are couragious and good Souldiers, great haters of Cowards; very ingenious, of a ready Witt, and sound Judgment, much addicted to reading several Authors, which tend to the knowledg of *Poetry*, *Philosophy*, the *Law*, *Medicine*, several of the *Mathematicks*, as *Arithmetick*, *Geometry*, *Astronomy*, and its influences, as *Astrology*, which they give much credit unto. These and the like *Arts* and *Sciences* are studied and taught young Students at several *Colledges* and *Universities*, by experienced persons in the same, who there reside. They are very ingenious in Fire and Water-works, are great lovers of their pleasure, in several recreations, as *Hawking*, *Hunting*, *Riding a tilt*, &c. they are very complementory, obliging, and curteous, especially to strangers, not addicted to covetousness, usury being forbidden amongst them; they are generally much given to Luxury, not contenting themselves with several Wives, but must also have the use of Concubines, which is allowed them; they are also given to *Sodomy*, but *Adultery* they severely punish. When a young man desires to marry, and hath heard of a maid as he thinks he can love, he hath some of his friends to treat with her parents or friends about it; for the maid is not to be seen, and if they agree, then they proceed to Articles, which is to be performed by the friends of the Bridegroom, it not being there the custom for the man to receive a portion with her, as it is here with us, but contrarily, the Dower which by both of their friends is agreed on, he either sends unto her two or three days before the consummation of the Marriage, which is either in Money or Goods, as a recompence to her Parents or Kindred, for their care in her education; or else engages to pay her if in case a Divorce should happen, which is usual amongst them upon a dislike or disagreement, as being allowed of by their Law, this done their Agents, in the name of the betrothed couple, go to their Priests or Ecclesiastical Judge, who being satisfied that it is done by the mutual consent of their friends, marries them by the said Agents, but very privately: the Marriag day being agreed upon, the Bridegroom sends his Bride several toyes, as Pendants, Bracelets, Rings or the like Ornaments; also several dishes of meat, for the entertainment of her friends and relations; who about the evening brings the Bride to the Bridegroom, being mounted on a *Horse*, *Mule* or *Camel*, being covered with a Vail of *Crimson Taffety*, over her face down to her knees, and accompanied all the way with Musick, and being entred the *Mosque*, the *Muley* demands their liking; then the Bride requireth three things, *viz.* *Bed-right*, *Food* and *Rayment*; and the Parents having declared their consent, the Priest encircles them with a cord, conjoynes their hands, takes a reciprocal Oath, and calls *Mahomet* to witness, which ended the *Caddi* enrolls their names, with the day of the month, year and hour of the day of their Nuptial, and so dismisses them; and being come to the Bridegrooms House, they take her off, and lead her into a room where she and her friends sup, the Bridegroom and his friends being in another room, and after supper is ended, they conduct her to another room where she is to ly, to which the Bridgroom is soon brought, where he receiveth his first sight of her, the campany with-drawing themselves out of the room, he falls to his embracing her, and after the first enjoyment of her, he leaves her, and goeth to his friends, to spend some hours in their company; if he finds that she hath lost her virginity before, he hath power to cut off her Ears and Nose, and to turn her, and her relations and friends out of doors, which is a great disgrace unto her and them; but if she be a pure Virgin, then he sends the tokens of it, by an ancient Woman, to her relations, and then for joy they continue their entertainments three or four days together, having several divertisements, as *Musick*, *Singing*, *Dancing*, or the like, the next day after their Marriage,

Their manners dispositions, &c.

Their Marriages.

Marriage, they both wash and bathe themselves, they are allowed by the Law four Wives, (of which the first hath the preemency,) but they must be of their own Religion; and for *Concubines*, they may be of any Religion, and have the liberty of taking as many as they please, paying them a certain stipend or salary, as they shall agree by the week, moneth, or longer, as they shall agree, at the end of which term, they are quit from their Obligation; and may leave each other without another agreement made betwixt them, the men are exceeding jealous of their Wives, insomuch as they are forbidden the liberty of society with any man, which custom is used among the *Italians*.

Men allowed many Women.

Their Feasts are munificent

In their Feasts they are very stately, having not only all varieties of Meats, as *Flesh*, *Fowles*, *Fish*, *Baked-meats*, with excellent *Wine*, and great attendance, but also pleasant *Fruits*, stately *Banquets* of *Sweetmeats*, and to make their entertainments compleat, they are furnished with curious *Musick*, as well Vocal as Instrumental, their Rooms or Halls, where they make these entertainments, are very spacious, and curiously adorned with stately *Hangings* of *Tapestry*, and beautified with varieties of *Paintings*, but most of them being naked Figures which amongst us would be accounted unseemly, their rooms being perfumed with sweet *Odors* and *Waters*, so that nothing is wanting for the pleasing of the senses; their way is to sit upon the ground on *Carpets*, being the Custom of the *Turks* and other *Eastern* Countries so to do; being also used to *Collations* in afternoons and nights, wherein they have excellent *Fruits*, *Sweetmeats*, *Wine*, *Musick* and *Dancing*.

They are much addicted to Women.

They are great lovers of Women, insomuch that at their Feasts they are always furnished with them, being such as they call *Dancing-women*, who being brought up in *Dancing*, *Singing*, and playing on *Instruments*, make it their imployment so to do at Feasts; these Women for the most part are very handsom, and richly attired, having about them costly *Jewels*, *Pendants*, *Rings*, having about their legs *Bells*, like *Morris-dancers*; and he who hath a desire to enjoy a Woman, riseth from his Seat, and taketh which of these *Dancing-women* he most fancies, and goes into a private room, and after he hath enjoyed her to his content, he comes to his place, and the Woman goes to *Dancing*, without any shame to the one, or notice taken of the other. They are much given to drink *Wine*, *Tea*, and *Coffee*.

The *Persians* very superstitious.

The *Persians* are very strict, superstitious, and ceremonious in their Religion, (as the *Turk* is, but differ much from them in the exposition of their *Alcoran*) as in their *Pilgrimages* to *Mecca*, in their *Sacrificings*, in their observing of days, on some of which they will not do any business, either tending to profit or pleasure, refraining from all Acts of Sin as nigh as they can, and one of these days they hold to be the next *Wednesday* before the *Vernal Equinox*, by which they begin their new year, in their processions, and celebrated Festivals in commemoration of their several Saints, which they perform with great devotion, mixt with no less state in their several Sepulchers, where their Saints are interr'd, which are very large and magnificent Structures, so rich in Gold and Silver, with which it is adorned, as well in Lamps and Candlesticks, as otherwise, that it can hardly be expresst; in which places they have their Priests, which attend and offer up their devotions and explain the *Alcoran*, which they read out of Books, which they have in their *Library* being Manuscripts either upon Paper or Parchment, being curiously bound, neatly painted within, and covered with Plates of Silver or Gold, carved or imbossed, or with paintings; also the *Persians* have not the same *Miracles*, the same *Saints*, the same *Mosques*, and the same Ceremonies as the *Turks* have; they use *Circumcision*, but not till the Children are 7, 8 or 9 years old, they are very devout, especially in their prayers, which they use five times a day, as being obliged by their Religion so to do; also in their Prayers for the dead, over their Graves which devotion is used during the time of their *Lent*, which they keep for a month, in which time they neither eat nor drink betwixt Sun-rising and Sun-setting, but in the nights they eat and drink what they please; yet for a sum of money they may have a dispensation: they interr their dead within three hours after the life is departed, unless it be in the night, so that then they let the corps alone untill the morning, they wash or bathe the bodies of their dead, before they

Their Religion

they are interred, in a great Cestern, which they have for the same purpose near the Church, to which place they are carried on a Bier in their Clothes, and after they are stript and Washt, they put them in clean linnen, anoint them, and so bear them to the Grave, being accompanied with his Friends, Relations, Servants, &c. in this order; first goeth those of his blood, next his *Varlets*, who go naked to the Waist, the rest in troozes, who to expres their love, scratch, and burn their Breasts, Arms, and other parts, so that the blood oft issueth forth; then follow many youths on whose shoulders are affixed some texts taken out of the *Alcoran*, together with Elegies of the deceased, in the next place follow several persons of the best ranck, each holding a cord that is affixed to the *Hearse*; and on every side abundance of People bearing in their hands, Garlands of Flowers, Lawrels, and such things as befit the Season, then follow some Horse-men half naked, who oft times massacre their carcasses, and in the last place follow weeping-Women, that is, such as are hired to weep and howle, the better to provoke others to passion; and being brought to the Grave, the Priest after he hath performed several Ceremonies which he readeth out of the *Alcoran*, the Corps is interred with his head towards *Mecca*, his face towards Heaven, and his armes expanded, (as they say) to imbrace their Prophet *Mahomet*, placing two Stones, one at the head, and the other at the foot of the Grave, on which are ingraven in *Arabick* Characters, the persons name, quality and time of burial, and so take their leave, but for a good while cease not to visit the Grave twice a day, beseeching *Mahomet* to succour him against his two bad Angels, of whom they have this opinion; So soon as the Corps is interred, there are two hideous Devils assaile him, the one they call *Muengar*, which is armed with an Iron Club, and the other *Quarequar*, armed with a Hook of Flaming brass, and in this horrid posture, they view the Carcass, and in an insolent manner, command him to raise his head, to fall prostrate upon his knees, and begg his soul, which then re-enters the body, and gives an account unto them of all the actions of his life, and upon examination and confession, if it appear that his life was good, they vanish away like Spirits, and two good Angels come (apparelled in white) to be a comfort unto him, and protect him untill the day of doom, not stirring from him, but sitting one at his head, and the other at his feet. But on the contrary, if it happen that his life is found bad, then these Infernal Imps are his tormentors, the one knocking him on the head such blows with his Iron Club, as beats him (as they say) ten yards into the Earth, and the other drags him up with his Flaming hook; and thus is he knockt down by one, and dragged up by the other, untill *Mahomet* sends him a deliverance; and this (as Sir *Tho. Herbert* relateth in his book of Travels) is their belief, which if it be true, I doubt they will have many a sound knock and torne place before their delivery. To persons of quality, they observe more Ceremonies than to those of the ordinary degree, making Feasts on the third, seventh, and fortieth day after the Corps is laid in the Grave, at which Feasts they are charitable to the poor in their Almes Deeds.

Ceremonies in their burials.

The King of *Persia* governs by an absolute power, disposing of the lives and estates of his Subjects as best pleaseth him, making his Will his Law, not any one daring so much as to murmure, though his actions are never so much unjust. Their Kings come to the Goverment by succession, and not by election, insomuch that if the King hath no Children which are lawfully begotten as by his Wives, for want of such those of his Concubines shall succeed him.

The King of *Persia* his power.

Upon the Coronation of their Kings, amongst other Ceremonies, he is presented with a Crown, by one of their chiefest Lords, which he takes putting it to his forehead, and after kissing it thrice in the name of *Mahomet*, and of *Aaly*, he delivers it to the grand Master of the Kingdom, who puts it on his head, the People making great shouts and acclamations, kissing his feet, and presenting him with great presents, which done, the rest of the day they spend in feasting and other jovialties, but in all their Ceremonies there is not so much as an Oath imposed upon him; as, for his well governing them, and keeping

The Coronation of their Kings.

keeping and preſerving their fundamental Laws, and other of their rights; as amongſt us done, but all being left to his ſole power, as being abſolute.

Their Courts of Judicature, and their Juſtice.

There are belonging to the Court ſeveral Officers, as *Chancellor*, *Secretary* of *State*, *Controller*, *Maſter* of the *Horſe*, *Maſter* of the *Ceremonies*, together with ſeveral other Officers, as amongſt our Courts are found. The Adminiſtration of Juſtice is decided by the King, but firſt tried by the ſecular Judges who examine the ſame, and deliver up their opinion to the King. They have ſeveral ſtrict and ſevere puniſhments, which they inflict upon the offenders according to the hainouſneſs of their crimes, for ſome offences they cut off the Ears or Noſe, ſometimes the Feet or Hands, for others to be beheaded, for ſome again, they are tyed between two boards and ſo ſawed aſunder, with ſeveral other cruel deaths which are too tedious to name.

Their Military Affairs.

In their Military affairs they are very experienced, their Army conſiſting only of Horſe, who have for their Armour Darts and Javelins, yet have they ſome in the nature of our *Dragoons*, which are mounted on Horſes, who have Muskets for their Arms; as for an Army of Foot, together with the aſſiſtance of great Guns by them, is not ſo much ſet by, as being troubleſom, and a detarder of them from their ſpeedy and great marches, they are very expert in all ſtratagems of War, which gives them a great advantage over their enemies.

Here doth inhabit a ſort of People called *Gaurs*, and are of a much different Religion from the *Perſians*, obſerving divers Ceremonies peculiar to themſelves. In their Baptiſm they uſe no Circumſition, inſtead of which they waſh the Child, &c. At their Nuptials after the Prieſt hath ſaid ſome Prayers, he takes water, waſhes both their fore-heads, and gives the benediction. When they are ſick they make Confeſſion to the Prieſt, and beſtow their Almes in hopes of Pardon of their Sins. They bury not their dead, but carry them to certain encloſed places, where they faſten them to high Stakes, with their faces towards the Eaſt. They bear a great adoration to Fire. They are exceeding cleanly in all things, and waſh often in *Cows-piſs*, which they hold to be a good purification. Upon confeſſion of their Sins to their Prieſts, they are conſtrained to Penance, in which ſeveral Ceremonies are obſerved. They have ſo great eſteem for Doggs, that when any die they are carried out, and prayers are made for them.

A diſcourſe of Silk-worms, and making of Silk.

They have great quantity of all ſorts of Cattle, Grain and Fruits. Amongſt their Fruit-trees, they have great quantities of white and black *Mulberry-trees*, which grow not above 5 or 6 foot high, ſo that one may eaſily reach up to the branches, and in the Spring time, when theſe Trees begin to ſhoot forth their leaves, they begin to hatch their Silk-worms, which they do by carrying the ſeed under their arm-pits in little baggs, which in ſeven or eight days will receive life, then they put them into a wooden diſh, upon the *Mulberry-leaves*, which they once a day change, and take a great care that they be not wet, at the end of five days they ſleep three, after which they diſpoſe of them into Rooms or Barns, prepared for the ſame purpoſe, upon the beams of theſe buildings they faſten laths, or ſuch like pieces of wood, upon which they lay *Mulberry-branches*, which hath the leaves on, whereon they put the Silk-worms ſhifting them every day, and as they grow in bigneſs, ſo oftner to twice or thrice a day; before they begin to ſpin, they ſleep about eight days more, after which they begin, and in 12 days they have finiſhed their Cod, the biggeſt they make choiſe of for ſeed; all the reſt they caſt into a Kettle of boyling Water; into which they often put a whisk made for the purpoſe, to which the Silk ſticks which they immediately wind up; and that which they keep for Seed, they lay upon a Table, out of which, in the ſpace of fifteen days comes forth great Buggs, which afterwards turn to things like *Butter-flies*, which in a few days they gender and lay Eggs, and then die, not eating any thing from their firſt ſpinning; which is much, for things to live ſo great a while without eating any thing: And of theſe Silk-worms thus ordered they make a great Revennue.

INDIA, or the **EAST INDIES**, which (according to its form and diſpoſition of its Eſtates) may be divided into three ſeveral Parts; to wit,

- The Empire of the **GREAT MOGOLL**, which comprehendeth that which is upon the Main Land, wherein are contained ſeveral Kingdoms or Provinces; the chief of which are,
  - Cabul, — Cabul.
  - Attock, — Attock.
  - Multan, — Multan.
  - Candahar, — Candahar.
  - Buckor, — Buckor-Suckor.
  - Tatta, — Tatta, Diul.
  - Soxet, — Janagar.
  - Caſſimere, — Sirinaket.
  - Bankiſh, — Beiſhar.
  - Kabarez, — Dankalar.
  - Naugracut, — Naugracut.
  - Siba, — Serenegara
  - Jamba, — Jamba.
  - Bakar, — Bikaner.
  - Samball, — Samball.
  - Gor, — Gor.
  - Kanduana, — Barabantaka.
  - Patna, — Patna.
  - Jeſual, — Rajapore.
  - Udeſſa, — Jekanac.
  - Mevat, — Narvall.
  - Pitan, — Pitan.
  - Guzurate, or Cambaya, — Surat, Baroche, Cambaya, Armadabad, Diu.
  - Chitor, — Chitor.
  - Malway, — Rantipore.
  - Candie, — Brampore.
  - Berar, — Shapor.
  - Gualeor, — Gualeor.
  - Narrar, — Gehud.
  - Eengala, — Bengala, Chatigan, Goura, Halabaſs, Satigan.
  - Lahor, — Lahor.
  - Jenupar, — Jenupar.
  - Jeſſelmere, — Giſſemere.
  - Bando, — Bando.
  - Delly, — Delly.
  - Agra, — Agra.
- The Peninſula of **INDIA** without the **GANGES**, and Weſtwards, and between the Mouths of the **INDUS** and the **GANGES**, with its ſeveral Kingdoms, or Countries of
  - **DECAN**, — Amedanagger, Chaul, Viſapor, Paranda, Goa, Doltabad.
  - **GOLCONDA**, — Golconda, Muſulipatan.
  - **BISNAGAR**, or **NARSINGUE**, — Onor, Biſnagar, Trivalur, Gingi, Negapatan, Sadrapatan, or Fort St. George, Maliapur, Geldria, Madure, Tutucori, and Manancor.
  - **MALABAR**, — Calicut, Cochin, Cananor, Coulan, Cranganor, Corate, Cota, Changanara.
- The Peninſula of **INDIA** within the **GANGES**, and Eaſtwards; wherein are contained ſeveral Kingdoms, Countries, Iſles, &c. the chief among which are
  - **PEGU**, — Pegu, Brema, Canarane, Ava, Tinco, and Prom.
  - **SIAN**, — Odiaa, Banckock, Lugor, Martaban, Camboya, Sacottay
  - Peninſula of **MALACCA**, — Tanaſſerin, Juncalaon, Queda, Pera, Malacca, Ihor, Patane.
  - **COCHIN-CHINA**, — Palocacein, Keccio.
  - **ISLES** in the Gulph of **SIAN**, among which are — Macara, Panian, Goeceinficos.
  - **ISLES** in the Gulph of **BENGALA**, among which are, — Chubedu, Chudube, Durondiva, Des Cocos, Andemaan.

The Empire of the GREAT MOGOLL; with its several Kingdoms, or Provinces, as they lie

Westwards, and towards PERSIA, from the first Streams of the INDUS unto its falling into the Sea, are those of

- Cabul, — Cabul, Ghidel.
- Attock, — Attock, Pucko.
- Multan, — Multan, Seerpore.
- Candahar, — Candahar, Gusbeeanna.
- Buckor, — Buckor-Suckor, Raurce.
- Tatta, — Tatta, Diul, Lourebander.
- Hajacan, — Chatzan, Dunki.
- Soret, — Janagar, Catcha.

On the North, and between the Mountains which divide this Empire from TARTARIA, or between the Springs of the GANGES and the INDUS, are

- Caſſimere, — Syrinakar, Chonab.
- Bankidi, — Boibar.
- Kakares, — Dankalar, Purhola, Rajapore, Lahor.
- Nagracut, — Canimaka.

On this ſide, or without the GANGES, where are thoſe of

- Siba, — Hardware, Serenegar.
- Jamba, — Jamba, Balcery.
- Bakar, — Bikaner.
- Samball, — Samball, Menepore, Chappergar.

Within the GANGES, are thoſe of

- Gor, — Gor.
- Kanduana, — Barakantaka.
- Patna, — Patna.
- Jeſual, — Rajapore.
- Udeſſa, — Jekanac.
- Mevat, — Narvall.
- Pitan, — Pitan, Camojo, Surat.

Southernly, and towards the Gulphs of BENGALA and CAMBAYA, and the Peninſula of INDIA within the GANGES, are thoſe of

- Guzurate, or Chambaya, — Baroche, Cambaya, Armadabad, Agra, Diu, Brodra, Cheytepour, Bifantagan, Mangalor, Jequete.
- Chitor, — Chitor, Chitapur.
- Malway, — Rantipore, Ongel, Narvar, Brampore, Mandow, Pala.
- Candis, — Gurchitto.
- Ranas, — Shapor.
- Berar, — Gualeor, War.
- Gualeor, — Gehud.
- Narvar, — Bengala, Chatigan, Goura, Patana, Tanda, Daca, and Bannara.
- Bengala, with its Parts of: Patan, Prurop, Bengala, — Ragmehel, Holobaſs, Satigan, Mandaran, Ougely, Xore, Belleſor, and Angara.

In the Middle of the EMPIRE, and are thoſe of

- Lahor, — Lahor, Fetipore, Temmeri, and Guzurat.
- Jenupar, — Jenupar, Sirima, Tanaſſer.
- Hendowns, — Hendowne, Mearta.
- Jeſſelmere, — Gillemere, Moulco, Radinpore.
- Bando, — Bando, Toury, Almere.
- Delly, — Delly, Acarnapori.
- Agra, — Agra, Secandra, Fetipore, Scanderbade, and Ilay.

The

The Peninſula of INDIA without the Ganges: In which are the ſeveral Kingdoms, or Countries of

DECAN, with its Parts of

- Decan, particularly ſo called, — Amedanager, Chaul, Dabul.
- Cunkan, — Viſapor, Soliapor, Paranda, Goa, Pagode, Zanguizara.
- Balaguate, — Liſpor, Beder, Doltabad.

GOLCONDA, — Golconda, Muſulipatan, Guadavari, Vixapatan, Narſingupatan, Orixa, Palhor, Calecote.

BISNAGAR, or NARSINGUE; with its Eſtates and Coaſts of

- Canara, — Onor, Gorcopa, Barcelor, Batical, Magalor, Bacanor.
- Biſnagar, particularly ſo called, — Biſnagar, Narſingue, Vellur, Cangevaran, Cirangapatan, Trivatur, Tripity.
- Gingi, — Gingi, Cindambaram, Chiſtapatama.
- Tanjaor, — Tanjaor, Caſtan, Trinidi.
- Maritim Places in BISNAGAR, GINGI, and TANJAOR, bearing and known by the name of the Coaſt of Choromandel. — Negapatan, Triminapatan, Tratgabar, Coloran, Fort St. George, or Sadrapatan, Maliapur, Paliacate, Chiricole, Muſulipatan, Caletur, Guebiria, Pentapoulli.
- Madure, — Madure, Brimaon, Periapatan, Punicale.
- Maritim Places of MADURE; and called the Coaſt of Peſcheria, — Jacahcury, Manapar, Vaipar, Trichandur, Chereacale, Tuticori, Iſle of Kings, Bember, Calegure, Manancor, Canameira.

MALABAR, with its ſerveral Kingdoms, or Provinces, to wit,

- On the Sea, or Coaſt of Malabar, as — Calicut, Cochin, Cananor, Coulan, Chambais, Montigue, Badara, Tanor, Cranganor, Porca, Calecoulan, Travancor, Cotate.
- In the High Land, as — Cota, Auriola, Cottagan, Bipur, Coucura, Panur, Curiga, Muterte, Marta, Batimena.
- In the Mountains, as — Mangat, Paru, Pimienta, Changanara, Trivalar, Panapelli, Angamala, Ticancotes, Punhali, Caranarette, Pande.

The

The Peninsula of INDIA within the Ganges: In which are the Kingdoms, Countries, Isles, &c. of

- PEGU, with its Kingdoms or Parts of
  - Martavan,
    - Pegu,
    - Brema,
    - Canarane,
    - Pandior,
    - Manchanelle,
    - Cassiui,
  - Manar,
    - Boldia,
    - Ava,
    - Tinco,
    - Prom,
  - Tangu,
    - Tolemo,
    - Largues,
    - Tipoura,
    - Chacomas,
    - Maon,
    - Arracan,
  - Marsin,
    - Dogon,
    - Ledoa,
    - Cosmi,
    - Xara,
    - Dunbacaon,
    - Chiboile.
  - Jangoma,
  - Brama,
- SIAN, with its Kingdoms or Estates of
  - Sian,
    - Odiaa,
    - Banckock,
    - Ogmo,
    - Lugor,
    - Mirgin,
    - Sacotay,
    - Juropisan.
  - Martaban,
    - Martaban,
    - Macuria,
    - Cuidad de los Reyes,
    - Macaon.
  - Jangoma, — Jangoma.
  - Camboia,
    - Camboya,
    - Ravecca,
    - Langor,
    - Carol,
    - Tarvana,
- Peninsula of MALACCA, whose Parts
  - Towards the Gulph of BENGALA, and Westwards, are
    - Tanasserin, — Tanasserin.
    - Junsalaon, — Juncalaon.
    - Queda, — Queda.
    - Pera, — Pera.
    - Malacca, — Malacca.
  - Towards the Gulph of SIAN, and Eastwards, are
    - Ihor, — Ihor.
    - Pahang, — Pahang.
    - Patane, — Patane.
    - Singora, — Singora.
    - Brodelong, — Brodelong.
    - Ligor, — Ligor.
- COCHIN-CHINA, with its Kingdoms, People, &c. of
  - COCHIN-CHINA, particularly so called, with its Provinces of
    - Chiampaa, — Pulocacein.
    - Ranran, — Baday.
    - Pulocanbis, — Naromtan.
    - Quagiva, — Cionoy.
    - Cacciam,
      - Cacciam,
      - Faifo,
      - Turaon.
    - Sinuva, — Sinuva.
  - TUNQUIN, with its Parts or Provinces of
    - Bochin,
    - Ghean,
    - Tinhoa,
    - Beramar,
    - Kedom,
    - Kenam,
    - Kethay.

    whose chief place is Keccio.
  - The People called the Layes.
  - The Kingdom of Ciocangue.
  - The People called the { Gueyes. Timocoves.
- ISLES seated in the Gulph of SIAN, viz.
  - Macara.
  - Panian.
  - Cara.
  - Goeteinficos.
  - Tyamciefi.
  - Cosyn.
- ISLES seated in the Ocean, called the Gulph of BENGALA; viz.
  - Chubedu,
  - Chudube,
  - Ledoa,
  - Dos Alevantados,
  - Durondiva Siriaon,
  - Sobollas,
  - Dos Cocos,
  - Andemaon,
  - Dos Caboses,
  - Tanasseri,
  - Tavay,
  - Alta,
  - Crara,
  - Caremubar,
  - Raza,
  - Dos Sombreros de Palm,
  - Siano,
  - Sambilano,
  - Batun,
  - Pera,
  - Pinaon,
  - Ganal de St. Jorgo,
  - Nicubar.

IN-


A General Mapp of the East: Indies Comprehending the Estats or Kingdoms of the Great Mogol, the Kingdoms & Estats of Decan, Golconde, Bisnagar, Malabar &c in the Peninsula of India with out the Ganges. & the Kingdoms Isles of Pegu, Sian, Malacca, Cochinchina &c in the Peninsula of India within the Ganges. with the Isles of Maldives.
by Monsieur Sanson
To the Worshipfull Josia Child of Wansteed in Essex Esq. Son & heyro of Sr Josia Child Knt & Bart late of the place Baronet this mapp is D: D. by R. Blome.
TARTARIA
THIBET
KAKAKE
Mountains
ZAGATAY
TURQUES
GOR
Rahia Tabbon
Rahia Rodoron
Rahia Mug
PITAN
KAN: DUANA
CASSI
NAUSIBA
MEREBANK
BENGALA
PATNA
IAMBA
BACAR
DELLY
SAMBOL
AGRA
IESULA
MEVAT
PATAN
PRUROP
MALWA
CHITOR
HENDOWNS
MULTAN
BUCKOR
TATTA
IESSELMEERE
ASMERE
BERAR
GUZURAT
Gulph of Cambaya
Gulph of Bengala
PENINSULA of INDIA
THE ORIENTAL PENINSULA of INDIA with out the GANGES
Isles of Andemaon
Isle of Ceylan
or ARCHIPELAGO of the Isles of MALDIVES
OCEAN
with in the GANGES
ISLES of SONDA
PEGU
KINGDOM of SIAN
KINGDOM of CAMBOIA
CHAMPA
Gulph of Cochinchina
BORNEO
Tropick of Cancer
Æquator
North
South

INDIA,
OR THE
EAST-INDIES.

INDIA, of which we treat at preſent, is that which the Ancients have known under the name of *India*, or the *Indies*, and which the Moderns call the *Aſiatick*, or *Eaſt-Indies*; becauſe they likewiſe call *America*, though very improperly, the *Weſt Indies*; theſe lying Weſt, thoſe Eaſt from our Meridian. But under the name of *Eaſt Indies* divers Authors comprehend all the moſt Oriental parts of *Aſia*, that is to ſay, all that is above and beyond the River *Indus*, from whence the Country takes its name; and likewiſe *China*, and the Iſles of *Aſia*, which are in the *Oriental Ocean*, paſs under the name of theſe *Indies*. Its Name.

But leaving *China* and the Iſles of *Aſia* apart, we may divide *India*, both becauſe of its Form and the diſpoſition of its Eſtates, into three ſeveral parts; of which, the firſt ſhall comprehend that which is upon the Main Earth, the reſt ſhall be in two *Peninſula's*; of which, the moſt Weſtern, and between the Mouths of *Indus* and *Ganges*, ſhall be called *The Peninſula of* India *without the Ganges*; and the moſt Oriental, and beyond the *Ganges*, ſhall be called *The Peninſula of* India *within the Ganges*. Its bounds, and diviſion into Parts.

We will eſteem in the firſt part, that which the Great *Mogoll* at preſent poſſeſſes, and what is engaged in his Empire. In the two *Peninſula's* we ſhall have a great number of Kingdoms and Principalities; neither the one nor the other having leſs than fifty, which by little and little are reduced into a leſs number, the ſtrongeſt becoming Maſters of the weakeſt. Thus the great *Mogoll* made himſelf Maſter of 35 or 40 Kingdoms, of which ſome had before ruined many others.

The Empire of the GREAT MOGOLL.

OF the ſeveral Provinces, or Kingdoms, under the Empire of the Great *Mogoll*, as appears in the *Geographical Table* of the Empire apart, have their Names common with thoſe of their chief Cities, and are all rich, and ſince their ſeparation they compoſe fair and powerful Eſtates: And firſt with *Cabul*.

CABUL, whoſe chief City bears the ſame name, is the moſt advanced towards *Perſia*, with *Usbeck* or *Zagatha*. The Springs of *Nilab* and *Behat*, which fall into the *Indus*, and poſſibly likewiſe of *Indus*, are in this Kingdom or Province. The City of *Cabul* is great, but the Houſes low; its ſtrength lying in the two *Fortreſſes*, and in the great Road of *Lahor* to *Samarcand* in *Usbeck*; and to *Tarchan*, the chief City of *Caſcar*, from whence they bring *Silk*, *Muſk*, and *Rhubarb*, from *China* and *Cathay*. Kingdom or Province of *Cabul*.

ATTOCK

Attock. *ATTOCK* is on the *Indus*; Its City is fair, the Fortreſs good; and when the Limits of the Eſtates of the Kings of *India* lay between *Lahor* and *Attock*, it was of greater conſideration than poſſibly it is at preſent.

Multan. *MULTAN* is rich, by reaſon of the fruitfulneſs of its Soil and Traffick, which the Rivers of *Indus*, of *Behat*, of *Nilab*, and of *Rawey*, which fall into the *Indus*, do much enrich. The City of *Multan* is great, ancient, and not above two or three Leagues diſtant from the *Indus*. Its principal Commodities are *Sugar*, *Galls*, *Opium*, *Brimſtone*; ſeveral Manufactures of *Silk* and *Wool*, &c.

Candahar. *CANDAHAR* is far engaged towards *Perſia*, its chief City being ſo called, which is great, and of ſome Trade.

Buckor. *BUCKOR* hath for its chief City *Buckor-Suckor*, which lies along the River *Indus* (which runs through the Province) which makes it very fertil. The City is of an indifferent extent, and of ſome Trade.

Tatta. *TATTA*, whoſe chief City bears the ſame name, is divided by the River *Indus* into ſeveral Iſles. In this City and Province are held to be the moſt induſtrious Tradeſmen of the whole Kingdom, by reaſon of which here is found a good Trade, drove by Merchants of ſeveral Countries.

Buckor, there where the Rivers of *Rawey* and *Caul* fall into the *Indus*, and between *Multan* and *Tatta*; and *Tatta* where *Sinde* goes, between *Buckor* and the Sea: *Lourebander* and *Diul* ſerve for Ports to *Tatta*. *Lourebander*, there where the *Indus* begins to divide it ſelf into ſeveral Branches; *Diul* on the great Sea. Moreover *Diu* and *Diul* are two different places, being diſtant 150 Leagues from each other. *Diu* in the Kingdom of *Guzurate* or *Cambay*, belongs to the *Portugals*: *Diul* in that of *Tatta*, is the Great *Mogolls*, who keeps there a Governour.

Hajacan. The Province of *HAJACAN*, Weſtwards of the *Indus*; of very ſmall account, having no places worthy of note.

Sorat. *SORET* is ſeated between the Kingdoms of *Tatta* on the Weſt, of *Guzurate* on the Eaſt. It hath for its chief City *Janagar*; the Province is but of little extent, but very fruitful, rich, and well Peopled.

Caſſimere, Bankiſh, Kakares, Naugracut. *CASSIMERE* or *QUERIMUR*, *BANKISH*, *KAKARES*, and *NAUGRACUT*, are between the River *Indus* and *Ganges*; all encompaſſed with the Mountains of *Bimber* towards the *Indus*, of *Naugracut* towards the *Ganges*, of *Caucaſus* towards *Tartaria*, of *Dalanguer* which croſſes them, and ſeparates the one from the other; and they, the Foreſts of theſe Mountains, which yielded ſo much Wood for the Veſſels which *Alexander* the Great cauſed to be builded, to deſcend the *Indus*. And theſe are at preſent thoſe Foreſts which give ſo much divertiſement of chaſe to the Great *Mogoll*. *Sizinaket*, or *Sirinakar*, though unwalled, is the chief City of *Caſſimere*; *Beiſhar* of *Bankiſh*; *Dankalar*, and *Purhola*, of *Kakares*; and *Naugracut* of *Naugracut*. In this laſt the Temple of the Idol *Marta* is paved, Wanſcotted, and Seiled with Plates of *Gold*: And in *Callamacka* there are Fountains very cold, and near to Rocks, from whence ſeem to flaſh out flames of fire.

Siba. The Province of *SIBA* hath for its chief City *Hardware*, which gives its riſe to the River *Ganges*; and *Serenegar* on the River *Manſa*.

Jamba. The Province of *JAMBA* gives name to its chief City.

Bakar. The Province of *BAKAR* lieth on the Weſt of the *Ganges*, and hath for its chief City, *Bikaner*.

Sambal. The Province of *SAMBAL* takes its name from its chief City ſo called. This Province is likewiſe called *Doab*, that is, two Waters; its ſcituation being between the *Ganges* and *Semena*: which, together with the three Provinces laſt mentioned, are without, or on this ſide the *Ganges*, reaching almoſt from its Spring-head unto the River *Semena*, or *Gemeni*.

Gor. The Province of *GOR* takes its name from its chief City, and gives its riſe to the River *Perſelis*, which falls into the *Ganges*; the Province being very Mountainous.

Kanduana. The Province of *KANDUANA* hath for its chief City *Karakantaka*. This Province, and that of *Gor*, which is beyond the *Ganges*, doth end the Eſtates

ſtates of the *Mogoll* towards the North, meeting with the *Tartars* of *Turqueſtan*.

Mevat. The Province of *MEVAT* is very barren, whoſe chief City is *Narval*, which ends it towards the People called *Maug*; and others which we eſteem to be in the *Peninſula* of *India*, which is in the *Ganges*.

Udeſſa. The Province of *UDESSA*, is the utmoſt of the *Mogolls* Territories towards the Eaſt, which is alſo within the *Ganges*; its chief place is *Jebanac*.

Pitan. The Province of *PITAN* is on the Weſt of *Jamba*, being very Mountainous, whoſe chief City gives name to the Province. The River *Randa* runs through the City and Province, and falls into the *Ganges*.

Patna. The Province of *PATNA* is fruitful, whoſe chief City is ſo called, ſeated on the River *Perſelis*; but we have a very feeble and incertain knowledge of all theſe Parts or Kingdoms; but thoſe which are towards the South, and particularly *Guzurate* or *Cambaya*, and *Bengala*, are better known.

Guzurate, or Cambaya, exceeding rich and fertil. The Province of *GUZURATE*, by the *Portugueſe* called the Kingdom of *CAMBAIA*, hath more than 30 great Trading Cities, and is without doubt the nobleſt, greateſt, richeſt, and moſt powerful Province of all the *Mogolls* Country, yielding a yearly Revenue of 15 or 20 Millions of *Gold*; and its King hath brought into the Field 150000 Horſe, and 500000 Foot, 1000 Camels, &c. The Country likewiſe is eſteemed the moſt fertil of all *India*; producing all ſorts of *Grains*, *Fruits*, and *living Creatures*, quantity of *Drugs*, *Spices*, and precious *Stones*, not having any Mines of *Gold* or *Silver*, but three Plants which bring it an ineſtimable quantity; as well from the Gulph of *Perſia* and the *Red Sea*, as from all the Coaſts of *India* and *China*. Theſe Plants are *Cotton*, *Aniſeed*, and *Opium*: beſides which there are varieties of other rich Commodities, as *Oil*, *Sugar*, *Indico*, *Ambergreece*, *Soap*, *Comfits*, *Medicinal Drugs*, *Paper*, *Wax*, *Honey*, *Butter*, *Salt-Peter*, Manufactures of *Cotton*, *Linnen-Cloth*, *Carpets*, *Cabinets*, *Coffers*, *Caſes*, with a thouſand other curioſities, which its Inhabitants know how to make and ſell, being the ableſt Merchants of *India*. Its Commodities and Trade.

Its Inhabitants. They are likewiſe of a good Spirit, and addicted to Letters; ſerve themſelves of all ſorts of Arms, yet know nothing of Nobility, but by abundance of Riches; They are all *Pagans* or *Mahometans*. The *Pagans* for the moſt part are *Pythagoreans*, holding the immortality of the Soul, and that it paſſes from one body to another; for which reaſon they ſo much honour Beaſts, that they eat them not, but keep Hoſpitals to receive ſuch as are ſick and lame. The *Cows* here are in ſuch eſteem with them, that a Merchant *Banian* (according to the report of *Texeira*) ſpent 10 or 12 thouſand Ducats at a Nuptial, marrying his *Cow* with his Friends *Bull*. This Kingdom is in part *Peninſula*, between the Gulphs of the *Indies* and *Cambaya*, and in part on the Main, which ſtretches it ſelf towards *Decan*. This Province though of a large extent, yet hath above 120 Leagues of Sea-Coaſt, on which it hath ſeveral fair and rich Cities, and of a good Trade: As alſo great quantities of Inland Towns and Cities, the chiefeſt whereof are, *viz.* *Surat*, ſeated on the River *Tapta*, which falls into the Sea 12 miles below the City. It is a City no leſs great and rich, than populous and famous, and enjoyeth as great a Trade as any City in *India*; being much frequented by the *Engliſh* and *Dutch*, where they have their Preſidents and Factories, and where they have their Houſes for the negotiation of their affairs, which are ſpacious and well built. This City is built four ſquare, its Houſes flat, after the *Perſian* mode, and reaſonably beautiful, having the benefit of pleaſant Gardens: It hath ſeveral *Moſques*, but none deſerves commendation; it is defended by a ſtrong Caſtle, and hath a ſtrong Wall on all ſides, except on that which is ſeated on the River, and for its entrance hath three Gates: Its Port is ſix miles from the City, where the Ships are unladen, and the Commodities brought to the City by Land. The Inhabitants are either *Benjans*, *Bramans*, or *Mogolls*; but there are ſeveral other Nations which here reſide, as *Perſians*, *Turks*, *Arabians*, *Armenians*, *Jews*, &c. driving a Trade; but none comparable to the *Engliſh* or *Dutch*. Its other places of note are, 1. *Brodra*, ſeated on a ſandy Plain upon a ſmall Its extent by Sea. Surat. Brodra.

a small River, well fortified with Walls and Forts, the Inhabitants being for the most part *Dyers*, *Weavers*, and other workers of *Cottons*, for which it is the chiefest place in the whole Province. The Governour of this City hath also under its Jurisdiction about 210 Towns and Villages. 2. *Baroche*, 12 Leagues from *Surat*, and 8 from the Sea, seated strongly on a Mountain with Walls of *Free-stone*; it is well Peopled, most following *Dying*, *Weaving*, and making of *Cottons*, as they do at *Brodra*. About this City are very fertil Fields, which bring forth *Wheat*, *Barly*, *Rice*, and *Cotton*, in great abundance; and out of the Mountains they find the *Agats*. 3. *Cambaya*, seated on a River, and on a Sandy place, encompassed with a Wall of *Free-stone* about 10 Leagues in circuit; its Streets are strait and broad, its Houses fair and large, having 12 Gates for entrance, 3 large Market-places, and 4 stately Cisterns, large enough to keep Water for the Inhabitants all the year long. They have also about this City 15 or 16 publick Gardens, for the recreation of the Inhabitants, being places of great pleasure and delight. The Inhabitants are for the most part *Pagans*, *Benjans*, or *Rasboutes*. This City is at the bottom of its Gulph, and so famous, and of so great Traffick, that the Kingdom sometimes bears its name, being frequented by most Nations, where the *English* and *Dutch* keep a Factory. 4. *Amadabad* is the Metropolis of *Guzurate*, being about 7 Leagues in compass; a place of good strength, the Buildings are very stately and fair, especially the *Mosques*, the *Governours* House, and other publick Places; the Streets are large and many; is very populous, and of a great Trade, abounding in divers *Indian* Commodities. It is seated on a small River, which falls into the *Indus* about 45 Leagues from *Surat*, and is by the *English* compared to *London*. Here the Merchants pay no Custom; the Governour of this City is Vice-Roy of all *Guzurate*, being answerable for what he doth to none, but the Great *Mogoll*; he liveth in a greater state than any King in *Europe*: his Court large and stately; his attendance great, not stirring abroad without great pomp and state, as in his attendance of Nobles, and others, in his Guards of Horse and Foot, in his *Elephants* with brave furniture, together with several playing on certain Instruments of Musick. His Revenue is exceeding great, which by some is accounted to be about Ten Millions of *Gold* yearly: out of which he is at great expences, as in the maintaining the charge of the Kingdom, his own expences, and the keeping 12000 *Horse* and 50 *Elephants*, for the *Mogolls* service. In and about this City there are great quantities of pleasant Gardens, plentifully stored with variety of *Fruit-trees*. 5. *Diu* is in an Island of the same name, and lieth about 20 Leagues from the River *Indus*, and not far distant from the main Land. It is now subject to the *Portugals*, who have strongly fortified it. This City is well built, indifferent big, and hath a great and good Haven, being a place of great Trade, and having a concourse of Merchants of divers Nations, by reason of which it brings a great profit to the King of *Portugal*, whose chief Commodities are *Cotton-Linnen* of sundry sorts, which we call *Callicoes*, *Cocos-Oil*, *Butter*, *Pitch*, *Tar*, *Sugar-Candy*, *Iron*; several sorts of curious *Desks*, *Chests*, *Boxes*, *Standishes*, which they make of Wood neatly carved, guilded, and variously coloured, and wrought with *Mother of Pearl*; also excellent fair *Leather*, which is artificially wrought with *Silks* of all colours, both with *flowers* and *figures*, which is there (and elsewhere) used instead of *Carpets* and *Coverlids*. 6. *Bisantagan*, by reason of the fertility of the Country there adjacent, is of good repute, well peopled, having in it about 20000 Houses. 7. *Cheytepour*, is seated on a small River, the Inhabitants being *Benjans*, who by Profession are *Weavers*, who make great quantities of *Cotton-Linnen*. Here are also several other Cities of less note, as *Nassary*, *Gaudui*, and *Balsara*, which are under the jurisdiction of *Surat*, from which they are not far distant. 8. *Agra*, seated on the River *Gemini*, which falls into the *Ganges*; of a very large extent, and strongly fortified with a Wall and a great Ditch. Its Houses are fair, it Streets spacious; several being inhabited by those of one Trade, each Trade having its Street alloted it. It hath a fair Market-place, and hath for the accommodation of Merchants and Forreigners about 80 *Caravanseraes* or *Inns*, which

Baroche.

Cambaya.

Amadabad, the Metropolis of *Guzarett.*

The City of *Diu*, its Trade and Commodities.

Agra, a pleasant City, and much frequented by the *Mogoll.*

which are large Houses, wherein are good Lodgings, and Ware-Houses for their *Goods*. In this City there are about 70 great *Mosques* or *Churches*, besides divers little ones; in the greatest of which are several *Tombs* of their *Saints*. Here are also a great quantity of *Baths* or *Hot-Houses*, which are much used amongst them.

The Great *Mogoll* doth often change his dwelling; so that there is scarce any City of note, but what he hath abode in, and where he hath not *Palaces*, but there is none which hath his presence so much as this, it being the most delightful of all others, where he hath a sumptuous *Palace*, as also several *Gardens* and *Houses* for his retirement without the City. His *Palace* is seated upon the River *Gemini*, and if some Authors may be credited, is about 2 Leagues in compass; it is very strong, being encompassed with a strong Wall, and a great Ditch, or Moat, having at every *Gate* a *Draw-bridge* which are strongly guarded. For the description of this *Palace*, I must be beholding to *J. Albert de Mandelslo*, in his Book of *Travels*, where he saith, That being entred in at the *Gate*, there is a spacious *Street* with *Shops*, which leads to the *Mogolls Palace*; to which there is several *Gates* which are called by several names. Under the *Gate* called *Cistery*, is the place of *Judicature*; to which is adjoyned a place where all *Ordinances* and other *Writs* are sealed, and where the *Records* are kept; At the entrance of this *Gate* is the spacious *Street* aforesaid. The *Gate* called *Achobarke Derwage* is a place of great respect with them, and it is the place that the *Singing* and *Dancing Women* are lodged at, who are kept for the diversion of the great *Mogoll*, and his Family; these *Women* dance before him naked. There is another *Gate* which they call *Dersame* which leads to a *River*, to which he comes every morning to worship the *Sun* at his rising; Near this place it is, that his *Nobles* and *Officers* about his Court, come every day to do their submission to him; to which place he comes every day, except *Fridays* (which is set apart for their Devotions, (as *Sunday* is with us) to see the fighting of *Lions*, *Elephants*, *Bulls*, and the like fierce *Beasts*, which are here used for his recreation.) He speaketh of another *Gate* which leadeth into the *Guard-Hall*, through which, at the farther end of a Paved *Court*, under a *Portal*, there is a row of *Silver Pillars*, where there is a continual Guard also kept to hinder all people, except great *Lords*, to enter any farther, it leading to the *Mogolls* Lodgings, which are exceeding rich and magnificent; but above all is his *Throne*, which is made of massie *Gold*, and inriched with *Diamonds*, *Pearls*, and other precious *Stones*: Above the place where this *Throne* standeth, is a *Gallery* where he sheweth himself everyday, and receiveth the complaints of those who have received any injury; but they must be sure to prove it, else he runs a great hazard of his life, to trouble him vainly. But in his inner Lodgings there is no person to enter, save the *Eunuchs*, who wait upon the *Ladies* in his *Seraglia*, which is about 1000. Among the several fair Structures which are within this great inclosure, there is one great *Tower*, rich without (being covered with *Gold*) but not to compare to the wealth within; in which, are 8 spacious Vaults, which are filled with *Gold*, *Silver*, and *Precious Stones* of an Inestimable value.

Province of *Agra.*

This City of *Agra* gives name to a Province or Kingdom which is of a fertile Soyl, and well peopled and frequented, and owes its beauty and enlargement to *Ekebar*, Emperor of the *Mogolls*. The *Palace* of the Great *Mogol*, as I said before, is of 2 Leagues circuit; the other *Palaces* of *Princes* and *Lords*, which are also seated along the River, stretching towards the *North*, are all proudly built, but not of so large an extent; that of the Great *Mogolls* being the fairest, richest, and most magnificent of all the *East*. On the other side is the City of *Secandra*, about 2 Leagues long, almost all inhabited by *Merchants*. *Fetipore*, that is, *Desire accomplished*, 12 Leagues from *Agra*, and towards the *West*, is likewise one of the works of *Ekebar*, who having obtained Children to succeed his Estates, caused this place to be built for pleasure, with a very stately *Palace* and *Musqueito* or *Temple*; but its ill Waters have caused it to be abandoned. *Biana* to the *West* of *Fetipore*, hath the best Wood of all *India*. *Scanderbad* on the *West* of *Bayana*, hath been the Residence of some *Kings*, and the *Castle* above it, is very advantagiously scituated, where *Xa Selim* kept himself, till such time as *Ekebar* had streightly besieged him, and forced him to retire into the Moun-

tains. The name of this place, and likewise this of *Secandra*, directly opposite to *Agra*, retain something of the name of *Alexander*.

Province of *Lahor*. The Province of *LAHOR* or *PENGAB*, is large, very fertile in all sorts of *Fruits* and *Grains*, which makes it considerable, its chief City bears the name of the Province; and I believe this City to be the same with *Alexandria Bucephalus*, which *Alexander* the Great built, and named of his name and that of his Horse *Bucephalus*. The Ancients place it by the River *Hydaspes*, which may at present be *Bowey*. The City hath been so much enlarged by *Xa Selim*, that it contains 24 Leagues of circuit. It is very pleasantly seated, especially towards the River, on which it hath many delightful *Gardens*: Its *Fortress* is good, is adorned with many stately *Palaces* and great Houses where their *Nobles* and persons of quality reside; among others, that of the *Kings*, which is (though seated within the City,) yet separated from it with a high Wall, being magnificent, and adorned with great quantities of fair *Pictures*. Here is also by reason the *Inhabitants* are *Mahometans*, abundance of *Mosques* and *Bathing-places*, for their ordinary purifications, which is a ceremony much used amongst them. Here it is by many thought, that *Noah* seated himself after his coming out of the *Ark*; and likewise, that from hence *Ophir* and *Havilah*, Sons of *Joktan*, removed towards the *Ganges* and *Malacca*. This Province is esteemed one of the most pleasant Countreys in all *India*, being so well shaded with *Mulberry* and other *Trees*, whose verdure is no less delightful to the eye of the beholder, then refreshing to the wearied *Traveller*, under whose *Boughs* he may rest, and shade himself from the shallure of the *Sun*. At *Fetipore*, not far from *Lahor*, the *Sultan Ganfron*, the Son of *Selim*, but a Rebel, was by his Father defeated; from whence the place had its name, which signifies *Desire accomplished*: As the other *Fetipore* near *Agra* was built by *Ekebar*, after having obtained Children to succeed him in his Estates. This Countrey bears the name of *Peng-ab*, that is, five Waters, by reason it is watred with five different Rivers.

Province of *Delly*. The Province of *DELLY* gives name to its capital City, which is on the Road from *Lahor* to *Agra*; watred by the River *Gemini* or *Semena*. Before the *Mogolls* descended into all these quarters, the Kings of *India* made it their Residence, were here Crowned, and here had their *Tombs*: There are yet found some very fair *Obelisques*, believed to have been erected in the time of *Alexander* the Great, and the *Greeks*.

Kingdom of *Bengala*. The Kingdom of *BENGALA* occupies all the lower part of the *Ganges*, and may be divided into three parts. *Prurop* on this side the *Ganges*, *Patan* beyond it. The particular name of *Bengala* may be given to that which lies between the Branches of the *Ganges*, and along the Coast. This Kingdom hath been divided into 12 Provinces, which have been so many Kingdoms, and which took their names from their principal Cities; but we have no certain knowledg either of their names, or situations. *Bengala* likewise is placed by some betwen the Branches of the *Ganges*, by others beyond it: Some esteem *Chatigan* its chief City, when as others will have it to be *Goura* on the *Ganges*, higher in the Land, and more then 100 Leagues from the *Sea*. However it be, *Bengala* is of so great *Traffick*, and so rich, that the Kingdom and Gulf of *Ganges*, on which it is at present, is called the Kingdom and Gulf of *Bengala*. The City of *Chatigan* is pleasantly seated on a fair and large River, whose imbosure is not far distant from that of the *Ganges*. This River hath so fierce a Current, that *Boats* and *Vessels*, without the help of *Sails* or *Oars*, are driven in 24 hours about 100 Miles; so that those who have no occasion to pass up and down this River, are forced to fasten their *Vessels* to certain *Trees* or other things which are for the same purpose fixed along the shore. By which means they are sheltered from the violence of the *Tides*, which else would spoyl them. Here are several other Cities, as *Ragmehel*, *Daca*, *Banara*, *Tanda*, *Patana*, *Holobasse* on the joyning of *Gemini* and *Ganges*, is one of the fairest and greatest Cities of *India*, and I esteem it in the place of the Ancient *Palibothra*, where the streams of the *Jomanes* and *Ganges* do meet, with other Citi es of less note.

This

The extent of *Bengala*. This Kingdom of *Bengala* extends it self 300 *Leagues* from *East* to *West*, and sometimes 200 from *North* to *South*, having no less then 150 *Leagues* of Coast; which is much frequented by *Merchants* of several Countries; which hither come for their *Commodities*; which by reason of the temperatness of the *Air*; and the fertility of the *Countrey* do here abound. The *Inhabitants* are courteous, but deceivers: Their *Kings* have been esteemed as rich and as powerful as any in *India*.

Its Inhabitants.

Province of *Candis*. Between the Kingdoms of *Cambaya* and *Bengala*, are those of *Candis*, *Chitor*, *Malway*, *Berar*, *Gualeor*, *Narvar*, *Ranas* and *Berar*. *Brampore* is the chief City of *Candis*, seated on the River *Tapta*, which descends into the *Gulph* of *Cambaya*, below *Surat*. The City is great, but ill built, unhealthful, and a place which hath been unfortunate to many Children of the Great *Mogolls*. In the old City of *Mandow*, are the *Sepulchres* and *Remains* of the *Palace* of its Ancient *Kings*; the new City is better built, but less.

Province of *Chiter*. The Province of *CHITOR*, with its City of the same name, is quite engaged in the Mountains, which meet in the way of *Amedebat* and *Cambaya* to *Agra*. The City was of 5 *Leagues* circuit, before *Ekebar* took it from *Raja Cana*, and ruined it. It hath now little more then the *Remains* of 100 and odd *Temples*, and of a great number of Buildings which have been stately and magnificent. The *Castle* was in a place so advantagious and strong, that the *Kings* of *Delli* could never take it; and *Sultan Alandin* was constrained to raise the siege, after having been 12 years before it.

Province of *Malway*. The Province of *MALWAY*, hath its Territory fruitful, and for its principal place *Rantipore*, others put *Ugen* or *Ougell*. Its chief Fortress is *Narvar*, whose City is near the Spring-head of a *River*, and at the Foot of Mountains of the same name, and which stretch themselves from the Kingdom of *Guzurate*, unto that of *Agra* and *Narvar*; and in these Mountains abide some Princes which obey not the *Mogoll*.

Province of *Gualeor*. The Province of *GUALEOR* takes its name from its chief City, where there is one of the best *Cittadels* or *Fortresses* of the Estate, wherein the *Mogoll* confines such as are Prisoners of *State*, and those *Lords* of which he hath any jealousie; and where he also keeps a great part of his Treasure.

Province of *Ranas*. The Province of *RANAS*, hath for its chief place *Gurchitto*, seated on a high Hill.

Province of *Narvar*. The Province of *NARVAR*, hath for its chief City *Gehud*, seated on a *River* which falls into the *Ganges*, and touches on the Mountains of *Narvar*.

Province of *Berar*. The Province of *BERAR*, hath for its capital place *Shapor*, which reaches Southward, and touches that of *Guzurate*, and the Mountain of *Rana*.

Several other Provinces. In the midst of all the *Mogolls* Estates, are the provinces of *JENUPAR*, *HENDOWNES*, *JESSELMERE* and *BANDO*. The Province of *Jenupar*, takes its name from its chief City. *Hendowns* of *Hendowns*, which is towards the *Indies*. *Jesselmere*, whose chief City is so called, in whose *Castle Ammer* in 1548. *Zimlebege*, Wife of *Hymayon*, flying into *Persia* Lay in of *Ekebar*, who restored the *Mogolls*, and made their Estates so great and powerful in the *Indies*. And lastly, the Province of *Bando*, whose chief City bears the same name, is between the Cities of *Jesselmere*, *Delli* and *Agra*, at 70 or 80 *Leagues* from the one and the other, besides its City of the same name. *Asmere* is famous for the *Sepulchre* of *Hogimondee*, a *Mahumetan*, whom the *Mogolls* esteem a *Saint*, and there where *Ekebar* made his devotions, to the end he might obtain a Son to succeed in his Estate; and afterwards caused to be set up at every *Leagues* end, a Pillar of Stone, and several Lodgings to be built on the way, to receive *Passengers* and *Pilgrims*.

The extent bounds, &c. of the Great *Mogolls* Countrey. These are the Provinces or Kingdoms which the Great *Mogoll* possesses; whose *Empire* stretches from *South* to *North* 500 *Leagues*, and from *West* to *East* 6 or 700, is bounded either with Mountains or the Sea. Its Neighbours are the *Usbeck*, the *Cascar*, the *Thibet*, and the *Turquestan*, parts of *Tartary* towards the *North*; the People of *Maug*, and others which have been of *Pegu*, towards the *East*; the *Persians* towards the *West*; and the Kingdom of *Decan* and *Golconda* towards the *South*. The *Indian Ocean*, where are the *Gulfs*

of *Indus* and *Cambaya* on one side, and that of *Bengala* on the other side, wash the rest.

The *Tartars* & *Persians*, very troublesome to the *Mogol*.

Of all his Neighbors, the *Tartars* and *Persians* are the most powerful: The *Tartars*, nevertheless, being divided into many Estates, where they border on him, are more likely to damage him by Inroads, then by open War. The *Persian* regained from him *Candahar*, some years past: which he lost not again, till he had at the same time to deal with the *Mogolls*, and *Turks*. The others have much ado to defend themselves against him; as the Kings of *Golconda* and *Decan*; this last having lost some part of his Estates, and the other giving him some present in the way of Tribute.

But the great *Mogoll* would make nothing [illegible] with these *Kingdoms*, if he were not often perplexed with intestine War [illegible] remained not in his Estates divers *Princes*, which they call *Rahia* [illegible] Kings; and many people of whom he cannot absolutely dispose, neither [illegible] nor the other obeying him, or paying any Tribute to him, but by constraint, and the greatest part paying it only when and now they please, and sometimes not at all. Amongst these

Petty Kings & people under the *Mogoll*.

little Kings and People are the *Rahia Bossou*, who resides at *Demery*, 50 Leagues from *Lahor*. The *Rahia Tulluck Chan*, who resides at *Nangracut* 80 Leagues from *Lahor*. The *Rahia Decomperga* is 150 Leagues from *Agra*, residing at *Calsery*; the *Rahia Mansa* is 200 Leagues from *Agra*, residing at *Serinigar*. The *Rahia Rodorou* is beyond the *Ganges*, residing at *Camiyo*. The *Muggi* likewise beyond the *Ganges* to the *South* of *Rahia Rodorou*, is very powerful as well as the two last; between the *Armes* of the *Ganges*, is a Prince of the ancient family of the Kings of *Delli*, who likewise maintains himself. Above *Cassimere* the *Rahia Tibbon* acknowledges neither *Mogoll*, nor *Tartar*; descending often, and making incursions both on the one and the other. The People called *Balloches* or *Bulloques*, do unpunished live like Vagabonds in the *Province* of *Hatacan*; likewise the *Aguvanes*, and the *Patanes* in *Candahar*, likewise the *Quilles* or *Colles*, and the *Rebutes* in the *Mountains* between *Cambaya* and *Decan*, and sometimes the *Colles* of *Decan*, the *Rebustes* of *Cambaya*, and the *Patanes* of *Candahar* have raised Tribute.

These *Kings* and *People* are almost all *Pagans*, descending from divers *Kings* and *People* which possessed divers parts of the *Indies* before the *Mogolls*. There is one *Rahia* of the *Colles* above *Amadebat*; another the *Rahia Partaspha* near *Breampure*, who hath some time taken and pillaged *Cambaya*. The *Rahia Rana* resides at *Gorchitto*; and after having well defended himself against the ancient Kings of *India*, yields now some Tribute to the *Mogoll*.

Mogol very potent.

Yet is the Great *Mogoll* one of the greatest, and most powerful *Princes* of *Asia*; he can bring into the field 200000 Horse, 500000 Foot, and 2 or 3000 *Elephants*; he gives pensions to the greatest part of the *Princes*, *Lords*, *Nobles* and *Gentry* of the Country, on condition that they keep for his service, some 1, some 2, 3, 4, 5, some 10, some 100, some 1000 and upwards of Horses, which are to be always in readiness; his Armies nevertheless consist for the most part of 100000 Horse, and 200000 Foot; and this besides his ordinary Garrisons. His Subjects are strong and robustious, use all sorts of *Armes*, go freely to all occasions, wanting nothing but Order and Policy. They have no considerable Forces at *Sea*, since the *Portugalls* hold from them in the Kingdom of *Cambaya*, the City and Fortress of *Diu*, *Daman*, *Basaim* of the Isle of *Saltette* near *Bensaim*, the Fort of *Manora*, and the Rock of *Asserim*.

The Country stored with Cattle, Fowle, and Fish.

The whole Country is stored with several sorts of tame and wild Creatures, as *Buffes*, *Oxen*, *Cowes*, *Sheep*, *Deer*, *Wild-Asses*, *Bores*, *Hares*, &c. Variety of *Fowl* and *Fish*; here are also found *Crocodiles*, some of which are 30 foot long; *Cormorants*, and *Bats* as big as *Crows*.

The *Mogols* guard.

The great *Mogolls* ordinary Guard consists of about 12000 men, besides 600 of his life guard; he never stirs abroad to hunt, take the Air or the like, without the attendance of about 10000 men of all degrees; besides to make his state the greater, there are 100 *Elephants* richly trapt, and covered with *Scarlet*, *Velvet*, or the like; on these *Elephants* there are seated two men, the one to guide him, and the other which supports a large *Banner* of *Silk*, richly embroydered

broydered with *Gold* and *Silver*; but on some of the *Elephants* which go foremost, instead of carrying *Banners*, they play upon *Simbretts*, and other such like *Instruments*; after these 100 *Elephants*, comes the *Mogoll*, either mounted on an excellent *Persian* Horse, or else in a *Coach*, or *Sedan*, attended by his *Nobles* and other *Courtiers*, after whom come about 500 *Elephants*, *Camels*, and *Wagons* which are to carry the *Baggage*; for commonly he encamps in the *Field*, in which he takes great delight by reason of the coolness, as also by reason few Cities are able to give entertainment to so great a retinue; and besides his going thus to hunt or take the Air, he often changes the place of his abode according to the seasons of the year. The *Mogoll* celebrates with great pomp and state the first day of the year. They have several *Festival daies* which they keep in great triumph, wherein they have several divertisements of sports and recreations, and especially the birth day of the *Mogoll*. The language which the Great *Mogoll*, and most people of quality speak, is the *Persian* tongue. The Inhabitants are very expert at the Bow. The diseases which are common amongst them, are *Fevers*, and the *Bloody Flux*. Their Horses are not good, but their *Oxen* are excellent, being here used instead of *Horses*, which are very mettlesome. As in this great extent of ground (which we call the *Mogolls* Country) there are several sorts of People, so likewise are there divers sorts of *Religions*, some of which I shall speak a word or two of.

His State and great attendance.

The *Benjans* are *Pagans*, they use neither *Circumcision* nor *Baptisme*; they believe there is a God who created them, and made the Universe; but they worship the *Devil*, believing that God created him to govern the world, and do mischief to mankind, to which end in all their *Mosques* they have the figure of him in Statues of *Gold*, *Silver*, *Ebony*, *Ivory*, *Marble*, *Stone* and *Wood*; this figure in shape is ugly and horrid to look on; it is placed on a Table of Stone, which serves for an *Altar*, and receives the Offerings which are made to the *Pagode*; on the right side of this Table is placed a Trough, in which those who intend to do their devotions wash and Purifie themselves; and on the other side there is a Chest in which is put their Offerings, nigh to which in the wall is a Vessel, out of which the *Braman* or *Priest* takes out a kind of yellow stuff, with which he marks the foreheads of them; this *Braman* sits at the foot of the *Altar*, from whence he riseth often to say Prayers. In their *Mosques* they always burn Lamps, and about the Walls of them are abundance of Figures, as *Beasts*, *Devils*, &c. which they adore. They much use as a part of their Religion corporal purification, bathing themselves every day. They are very ingenious, subtil, and civil, there being no trade but what they apply themselves unto, and are very expert in the adulteration of all *Commodities*. They are civil in their *Apparel*, but their *Children* go naked untill the age of 5 or 6 years, and at 7, 8, 9 or 10 years of age they marry them, seldom staying untill the age of 12, especially the female sex, as thinking it a great shame to live so long unmarried; and in their marriages they observe several ceremonies. The Men are not only permitted to marry twice, or thrice in case of mortality, but also if their Wives prove barren; but the first hath a preeminence as being mother of the Family; their Sons are Heirs to their Fathers Estates, but withall they must maintain the Mother, and take to Wife their Sisters.

The *Bramans* or *Priests* are of great authority, and highly respected amongst them, insomuch that the *Benjans* will hardly engage themselves in any matter of concernment, without the advice and approbation of them. These *Priests* besides their expounding the mysteries of their Religion according to their fancies (which soon take impression in the minds of these superstitious people) have an oversight of Schools where Children have their education. When the men are to go a journy they desire the *Braman* to have a care of their Wives, untill they return, and to supply their places; another custom they have, that when any are married, the Bride is brought to the *Braman*, and he is earnestly requested to enjoy the first fruits of her, without which they think the marriage is not blest, and for so doing he hath gifts presented him according to the qualities of the persons.

The *Benjans* believe the transmigration and immortality of the Soul, thinking that

that the Soul of a good man is departed into the body of a *Chicken* or a *Pigeon*, that of a wicked or cruel man into a *Lion*, *Tiger* or *Crocodile*, that of a glutton into a *Swine*, that of a crafty man into a *Fox*, &c. for which reason they neither eat nor kill any thing that hath life; nay they are so far from destroying them, that on the contrary they will purchase them of the *Mahometans*, and set them at liberty, and for those that be lame, or sick, they have Hospitals for them as in *Persia*.

J. Albert de Mandelslo, in his Book of Travels saith, that the *Benjans* are divided among themselves, into 83 principal Sects, besides an infinite number of others; those of most note as comprehending all the others, are those of *Samarath*, *Ceurawath*, *Bisnow* and *Goeghy*.

The *Parsis* and their Religion. Besides the *Benjans* there is another sort of *Pagans* whom they call the *Parsis*, who for the most part reside by the Sea-coast, addicting themselves to *Trades* and *Commerce*; they believe that there is one God, preserver of the Universe, who acts alone and immediately in all things; but he hath as they fancy about 30 several Servants, to whom he giveth an absolute power over the things which he hath entrusted them with, but withall they are obliged to give an account unto him; and for these Servants they have a great veneration, who have each their particular charge, as one having the Government of the *Earth*, another of *Fruits*, another of *Beasts*, another of Military affairs: Others who have influences on men, some giving understanding, others wealth, &c. Another who takes the possession of the *Souls* departed; which conducts them to the *Judges* where they are examined, and according to their good or evil deeds, receive their *Sentence*, and are carried by the good or bad *Angels*, who attend the *Judges* to *Paradise* or *Hell*, where they think they shall abide until the end of the world, which will be 1000 years; after which time, they shall enter into other Bodies, and lead a better life then they did before. Another hath the goverment of *Waters*, another of *Metals*, another of *Fire*, which they hold *Sacred*, &c

They have no *Mosques* or publick places for their *Devotion*; they have a very great esteem of their *Teachers* and *Doctors*, allowing them a plentiful Estate. Their Widows are suffered to marry a second time. *Adultery* and *Fornication* they severely punish. They are forbidden the eating of any thing that hath life. *Drunkenness* they likewise strictly punish. These People are much given to *Avarice*, and circumventing those they deal withal. The *Mahomitans* or *Mogolls* that here inhabit are of a good stature, have their Hair black and flaggy, but are of a clearer Complexion then the other sort of People aforementioned. They habit themselves something like the *Persians*; their *Garments* about their *Waists*, are close to their *Bodies*, but downwards wide; they use *Girdles* and their *Shoos* and the Covering of their *Head*, is much the same with those of the *Turks*. And they are likewise distinguished by their *Clothes*, which according to the degree and quality, and the person, doth exceed in richness. They are very civil, ingenious, and reserved, yet are expensive in their *Apparel*, *Feastings*, and great lovers of *Women*. And so much for the *Mogolls* Countrey.

Their habit & behaviour.

The Peninsula of INDIA *without the Ganges.*

Its bounds. THe *Peninsula* without the *Ganges*, is between the Mouths of *Indus* and *Ganges*, and advances from the *East* of the Great *Mogoll*, unto the eighth degree of *Latitude*, on this side the *Æquator*. The *Ocean* or *Indian Sea* washes it on three sides; to wit, the *Gulf* of *Bengala*, once *Gangeticus Sinus*, on the *East*; the *Gulph* of *Cambaya*, anciently *Barigazenus Sinus*, and the *Sea* which regards *Arabia*, on the *West*; towards the *South*, that which regards *Cylan* on one side, and the *Maldives* on the other.

We

Its parts. We will divide this *Peninsula* into four principal parts, which shall be *Decan*, *Golconda*, *Narsingue* or *Bisnagar*, and *Malabar*. The three first, and greatest, have each their King; or if there be more, they depend and hold of one alone: The fourth and last part, hath likewise formerly been a *Kingdom* alone; at present is many, but which hold one of another.

DECAN.

Kingdom of *Decan*. THe Kingdom of *DECAN* is washed on the *West*, by the *Indian Ocean*, the *Gulf* of *Cambaya*. It is divided into three others, which they call *Decan*, *Cunkan* and *Balaguate*; the two first on the Coast. *Balaguate* is Eastward of the other two up in the Land, and composed of *Vallies* which are below, and between the *Mountains* of *Gate*; beyond which, are the Kingdoms of *Golconda* and *Narsingue* or *Bisnagar*.

Its chief places. In the particular *Decan*, are the Cities of *Amedanagar*, *Ghaul*, *Dabul*, &c. In *Cunkan* are the Cities of *Visapor*, *Soliapor*, *Goa*, *Paranda*, *Pagode*, &c. Likewise in *Balaguate*, *Lispor*, *Beder*, *Doltabad*, *Hamedanager*, *Visapor* and *Beder*, are the principal Cities, and those where the *Dealcan* or *Idalcan* makes his residence; but none more considerable then *Goa*, though they are fair, well built, large, and populous.

Goa is a City as fair, rich, and of as great Traffick as any in the East; being situated in an Island of the same name, which the Rivers of *Mandova* and *Guari* make at their falling into the *Sea*. *Alphonso Albuquerque* took it in the year 1510. and since the *Portugals* have established themselves so powerfully, that their *Vice-Roy*, a *Bishop*, and their *Counsil* for the *East-Indies* have here their Residence. The *Commodities* found in this City (being the Staple of the Commodities of this part of the *Indies*, as also of *Persia*, *Arabia*, *China*, *Armenia*, &c.) are *Precious Stones*, *Gold*, *Silver*, *Pearls*, *Silk* raw and wrought, *Cotton*, of which they make several *Manufactures*; also *Spices*, *Druggs*, *Fruits*, *Corn*, *Iron*, *Steel*, with divers others which the said Countreys afford, but the *Natural Commodities* of *Goa* are not considerable. Besides their great Traffick with several Nations, their *Riches* and *Policy* which they observe, *Vincent Blanc* makes account that its *Hospital* is the fairest, the best accommodated and served, and the richest of any, making it exceed that of the *Holy Spirit* at *Rome*, and the *Infermerica* at *Malta*, which are the best of all *Christendom*. Their *Streets* large, their *Houses* fair, especially their *Palaces* and *Publick Buildings* which are very magnificent: Their *Churches* are stately and richly adorned; their *Windows* are beautified with *Mother* of *Pearl*, and *Shells* of *Tortoises* of divers colours; which are ingeniously cut in neat Works. This City is in compass above 15 miles, and though it is without *Gates* or *Walls*, yet by reason of its *Castle*, *Forts*, and the strength it receiveth from the Island, is a place of great strength and force: It hath a great and good *Haven*, which they make their *Harbor* for their *Indian Fleet*, by which they command the *Seas* there abouts. The *Portugals* here live in all manner of delight and pleasure; and with a pride and presumption so great, that the least and most beggerly among them, take to themselves the titles of Gentlemen of the House and Chamber of the *King*, *Knights*, *Esquires*, &c. being very highly conceited of themselves, and exceeding proud and stately, but withal very civil and courteous; no person of quality walks the *Streets* a-foot, but are carried by their *Slaves* in a *Palanquin*, or ride on *Horses*, and the Women seldom go abroad publickly. Both Sexes are extreamly given to *Venery*, by reason of which, the *Pox* is very frequent among them, of which abundance dies: Their Women have an excessive love to white Men, and will use their uttermost endeavours to enjoy them. The Men are so jealous of their Wives, that they will scarce suffer their neareſt *Relations* to see them, by reason they are so much desirous of the enjoyment of Men, and they so much of them.

Its riches beauty, &c.

Its strength.

In their *Apparel*, as also in the furniture of their *Houses*, they are very costly. The Women are here delivered without pain, and not having the use

of

of a *Midwife*, or any one but her self; and no sooner is she delivered, but she is about her occasions, not observing the custom among us, in keeping their Chamber a month together. Most of them live to the age of 100 years, and that in perfect health; but these are not the *Portugals*, but are the Natives which are *Pagans* and *Benjans*. To this City do resort *Merchants* from *Arabia*, *Persia*, *Armenia*, *Cambaya*, *Bengala*, *Siam*, *Pegu*, *China*, *Java*, *Malacca*, and from several other Countries, it being the *Staple* of all *Indian Commodities*. In the heart of the City, is a Street, where every morning, from seven to nine, not only the *Merchants* meet for the vending and buying of *Commodities*, which are here set forth for sale, like our *Fairs*; but also the *Gentry* of the City meet, as well to hear news, as to satisfie their fancies in the sight of the *Commodities*: And besides this *Street*, every *Trade* hath its particular *Street*, one *Trade* not intermixing with another.

Besides *Goa*, the Land of the *Bardes*, the Isles of *Salsette*, of *Coran*, of *Divar*, and some other Lands about *Goa*, are the *Portugals*: As likewise, the City of *Chaul*, on the Coast, where they have a great *Trade* of *Silk*; and from these places they have their provision brought them, and that at very easie rates; for the Island of it self is so barren, that it will scarce produce any thing.

Decan taken altogether, hath one King alone, which they call *Idolcan* or *Dialcan*. The Great *Mogoll* hath taken from him some places in the particular *Decan*, and the *Portugals* *Goa*, *Chaul*, and some other places on the Coast. This Prince is yet powerful, at least in regard of the *Indians*: He hath taken *Dabul* from the *Portugals*, and ruined it. He once besieged *Chaul*, and divers times *Goa*, leading in his Armies near 200000 men. In fine, he made Peace with the *Portugals*; the *Vice-Roy* of the *East-Indies* for the Crown of *Portugal*, having always an *Ambassador* at the *Idolcans* Court, and the *Idolcan* having one at *Goa* with the *Vice-Roy*. And though this Prince is so powerful in men, and so well provided with *Ammunition*, and his *Artillery* greater and better then any Prince about him, yet is he become Tributary to the Great *Mogoll*.

Its Commodities. All the Country is good, fruitful, watered with several Rivers, hath store of precious *Stones*, of *Cotton* and *Silk*, of which they make divers *Manufactures*; of *Pepper*, of *Fruits* and other *Commodities*.

The Inhabitants or Natives of the Country are *Pagans*, and for the most part *Benjans*, but eat any kind of *Flesh*, except that of an *Ox*, *Cow*, *Buffe*, *Swine* or *Wild-Bore*. A *Swine* they abhor, but have a great veneration for a *Cow* or an *Ox*. But as to the manner of their life, as in their *Marriages*, *Interments*, *Purifications*, and other *Ceremonies* in their *Religion*; as also in their *Habits* and *Houses*, which are very mean, their *Houses* being made of *Straw*, and withal, small and low; having no light but what enters in at the door, which is not so high as a mans Waist: In which, their chiefest furniture and houshold-stuffs, are *Mats* to lie upon in the night, on which they also eat their *Meat*; their *Dishes*, *Drinking-cups*, &c. are made of *Fig-leaves*, which they daub and plaister together. In these, and the like *Ceremonies* and *Customs*, they imitate the *Benjans* aforementioned, The rest of the people which here inhabit, are *Mahometans* and *Jews*, which here enjoy the freedom of their *Religion*, but the Subjects of the King of *Portugal* are *Catholicks*, those of the *English Protestants*.

GOL-

GOLCONDA.

The Kingdom of *Golconda*; its bounds and extent. THe name of *GOLCONDA* hath been known but for few years; nevertheless this is a powerful and rich Kingdom; but which hath been confounded with the name of *Orixa*. It is upon the Gulph of *Bengala*, which it regards towards the East and South, neighbouring on the *Mogolls* and the Kingdom of *Bengala*, towards the North. It stretches 200 Leagues on the Coast in length, and near 100 up in the Land in breadth. It yields 20 Millions of yearly Revenue, is very well peopled, and its People addicted to all sorts of Manufactures. They make *Cotton Pintado's* so artificially, and with such lively colours, that it is esteemed better than *Silk*. They build great Ships, trade to *Mecca*, *Aquem*, *Bengala*, *Pegu*, and throughout all the *Indies*.

Its chief places or Fortresses. There are in this Estate 66 *Castles* and *Fortresses*, where the ordinary Garrisons are kept; and these *Castles* are on inaccessible Rocks, which they call *Conda*. *Golconda*, which the *Persians* call *Hidrabrand*, is the chief and residence of the King; it is distant from the Port of *Musulipatan* about 60 Leagues, which is a fair City seated on an Arm of the Sea; adjoyning to the Kingdom of *Bisnagar*, and not far from *Cape Guadavari*. Hath its Air pleasant, its Soil fruitful, of about 5 or 6 Leagues circuit; nor doth its King yield much to the Great *Mogoll* in Riches, *precious Stones*, in store of *Elephants*, or all sorts of magnificence. But his Estates being much less, and his People less warlike, constraineth him to send him every year 400000 *Pagodes* in form of Tribute.

The Country rich in Diamonds and Precious Stones. This Country moreover hath no Mines of *Gold*, *Silver*, or *Copper*, some it hath of *Iron* and *Steel*, but many of *Diamonds* and other *precious Stones*, so rich and abundant, that in 1622 the King caused it to be shut up, and the labour to cease, fearing lest the too great quantity should make them neglected. Others say, for fear it should draw the Great *Mogoll* into his Estates.

Condapoli; its chief *Fortress* is so great, that in circumference it contains six others; and these six are one above the other, each having *Wood*, *Fruits*, and *Land* sufficient to maintain the Garrisons destined for their defence, which amount to 12000 Men. *Candavara* is another *Fortress*, 15 or 16 Leagues from *Condapoli*; and thence at certain intervals there are *Towers*, on which with certain Lights they give signal of all that passes in the Country. On the Sea-Coast or Gulph of *Bengala*, are seated several Towns, some of which are well known by Merchants; as *Guadavari*, which gives name to a Cape, on which it is seated, *Vixaopatan*, *Narsingapatan*, *Pulacate*, *Palhor*, *Manicapatan*, *Calecote*, *Caregara*; on the Cape *Segogora*, or *Das Palmas*, *Polarin*, *Contiripatan*, and others. The *Portugals* have a *Fortress* at *Masulipatan*, which is one of the best Ports of the Country; the City is not walled, and belongs to the Prince.

The Air and fertility of the Country. The Air is every where healthful, the Soil fertil, producing twice or thrice a year *Grains*, *Fruits*, *&c.* almost all different from ours. Their Seasons are distinguished in three manners; they have very great heats in *March*, *April*, *May*, and *June*; and that is their Summer. Much Rain in *July*, *August*, *September*, and *October*; and that is their Autumn. Fresh Weather, or little heat in *November*, *December*, *January*, and *February*, which is their Spring: For Winter they have none. One of their principal Revenues comes from *Salt*, which alone yields 1800000 *Pagodes*, or so many Crowns. Their other Revenues are drawn from several Commodities; amongst the rest *Diamonds*, of which all above 5 *Carats* belong to the Prince; nor dare any keep them on pain of death.

BISNAGAR, or NARSINGUE.

The Estates of *Bisnagar*, and its Parts.

SOuth of *Decan* and *Golconda* are the Estates of *BISNAGAR* otherwise *NARSINGUE*; these two places being the principal ones of the Realm. *Narsingue*, not far from the Port of *Paleacate*, about the midst of the Coast of *Choromandel*: *Bisnagar*, towards the Mountains of *Gate*, and near *Canara*. The whole Estate is divided into three principal quarters, and these 3 quarters into 7 Kingdoms, and extends it self on two different parts of the *Indian* Sea, on the Gulph of *Ganges* or *Bengala*, towards the East; and on the Gulph of *Indus* or *Cambaya*, towards the West. On this side, the Coast is 65 Leagues long; in the other 250.

The three principal quarters are called *CANARA, BISNAGAR*, and *CHOROMANDEL*. *Canara* occupies all the Western Coast, between the Estates of *Decan* and *Malabar*; *Bisnagar* and *Choromandel* hold all the Eastern Coast: the last towards the Coast of the *Peschery*, and Isle of *Ceylan*; and the first towards *Golconda*. *Canara* hath the Kingdoms of *Onor* and *Baticala* on the Sea, and that of *Borsopa* farther in the Land, which stretches to the Mountains of *Gate*. *Bisnagar* hath the Kingdoms of *Tienlique* and *Bisnagar*; *Choromandel*, those of *Choromandel* and *Tamul*.

The chief Cities and Fortresses.

Onor, *Baticala*, and *Gorcopa*, are the capital Cities each of their Kingdoms; the two first to one, the last subject to a particular King; but all Tributaries to *Bisnagar*. Those four on the East and Gulph of *Bengala*, are immediately subject to the King of *Bisnagar*, except that the *Portugals* hold *Maliapur* and *Negapatan*. But moreover the Estates of the *Naicques*, of *Tanjaor*, of *Gingi*, and of *Madure*, are esteemed to be of *Bisnagar*, because they make part of it, and are likewise at present Vassals and Tributaries of the King of *Bisnagar*. Formerly these *Naicques* were only Governours of the Quarters they at present possesse, these Governours revolting, and each seising his Government. The Kings of *Bisnagar* having long made War upon them, to reduce them to their duty: They in the end remained *Naicques*, that is, *Hereditary Lords*, and absolute over those Quarters, paying some Tribute to the Kings of *Bisnagar*.

The City of *Gingi* is esteemed one of the greatest and fairest of *India*, in the midst of which is a Fortress, and in that Fortress a Rock almost inaccessible; they give likewise to this *Naicque* the City of *Cindambaram*, after it *Chiskapatama*; and on the Coast of *Choromandel*, *Coloran*, the Princes of *Trinidi* and *Salavasca*, are subject to him.

The *Naicque* of *Tanjaor* hath his Estate between those of *Gingi* and *Madure*, and near the Port of *Negapatan*, which belongs to the *Portugals*. Besides *Tanjaor* and *Castan* in the Upland, the Cities of *Triminapatan*, of *Trangabar*, and of *Triminavez*, belong unto him.

The *Naicque* of *Madure*, besides *Madure* his capital City and a very fair one, holds almost all the Coast of the *Pescheria*, and the little Isle of *Manar* near *Ceylan*. This Coast extends from the Cape of *Comori* unto the Cape of *Negapatan*, viewing in the Ocean the not far distant Isle of *Ceylan*: And the name of the *Pescheria* hath been given it, by reason of the *Pearls* which they yearly fish there for about the end of *March* and the beginning of *April*; and this Fishing endures only 15 or 21 days, there being then about 50 or 60000 Persons employed either to fish, or to keep the Fishermens Vessels from trouble. These *Pearls* are exposed to sale in *July*, *August*, and *September*. *Tutucori* and *Manancor*, are the best Cities of this Coast, which is of 75 Leagues length, where there is about 25 Cities. The people of *Paravas* are mixed along the Coast, and live in some form of a Republick, paying some rights to the *Naicque* of *Madure*; and these are they that fish for the *Pearls*: this fishing being all the riches of the Country, which of it self is neither fertil nor pleasant, but dry and scorched.

The King of *Bisnagar* very powerful.

Yet is the King of *Bisnagar* very powerful, formerly marching against the *Idalcan*, it hath been accounted that he had in his Army 40000 Horse, 700000 Foot, and 700 *Elephants*. His chief City is *Bisnagar* or *Visnagar*, a City very beautiful, seated in a temperate Air, and by reason of the fertility of the Country

Country about it, which brings forth sundry Commodities naturally, besides the industry and ingenuity of the Inhabitants in several Manufactures; but especially in their fine *Cotton-Linnen*, which they make of divers colours, and interwoved with several sorts of *Loom-works* and *flowers*, which are esteemed better than *Silk*. Also the goodness of its Haven, hath made it a place of as great Commerce as any City on the Coast of *Choromandel*; though at *Musulipatan* the *English* have settled a Factory (both for the providing and lading hence the Commodities of the Country,) more by reason of its scituation, than for the goodness of place, it being of no beauty nor grandure; its Houses being low and ill built, and its Streets not many, and those that are, narrow and ill contrived; but above all it is seated in a barren Soil, by reason of the extraordinary Heat, which here rages from *March* to *July*; then from *July* to *November*, the great Rains and Winds, which reign continually, so that their Temperate weather is but from *November* to *March*.

An *English* Factory at *Musulipatan*.

Vincent le Blanc saith, That the City of *Bisnagar* is able to set forth 100000 Horse; next to it *Narsingue*, on the side of a little Hill towards the Sea; *Tripity*, not far from *Chandegry*; and *Cangevaran*, not far from *Maliapor*, or *St. Thomas Trivalur*, is famous for the great number of its Idols. *Cirangapatan* is between *Chandegry* and *Mangalor*, which is on the Coast of *Canara*: the Fortress of *Vellur*, between *Chandegry* and *Narsingue*, was the Kings Court in 1609. All the Country is healthful, rich, and fertil in *Corn* and *Fruits*, breeding store of *Cattel* and *Fowl*; and *Diamonds* are found in the Mountains of *Gate*, near *Chandegry*, and in other places quantity of *Amethysts* and *white Saphirs*. They have all sorts of *Beasts*, both tame and wild: their *Elephants* are docil, their People healthful and well disposed, but not couragious. The *Pepper* of *Onor* is esteemed the most weighty and the best of all these quarters: the *Portugals* lade from thence 7 or 8000 *Quintals* a year. *Baticala*, a Port of *Rice* of several sorts, different both in price and goodness; the *black Rice* is esteemed more healthful, and better than the *white*.

The fertility, temperature, &c. of the Country.

Between *Peleagate* and *Narsingue*, there is an obscure and deep Valley full of Trees, which still drop water like those in the Isle of *Ferr* in the *Canaries*: near this Valley there is abundance of *Sugars*, whose *Canes* prest serve to feed Beasts, among which *Hogs* most delight in them, which makes them contract a savour rather of *Sugar* than *Salt*; yet are they worth little.

Some give the King of *Narsingue* but 10 or 1200 *l. Sterling* of yearly Revenue, whereas others report him to have 10 or 12 Millions of *Gold* yearly, which is most likely. He entertains ordinarily 40000 *Naires*, 20000 *Horses*; and for the service of his House 12 or 15000 Persons, 1000 *Horses*, and 800 *Elephants*.

The Revenue of the King.

Almost all the People are *Idolaters*, some *Mahumetans*, and a few *Catholicks*. The *Jesuites* have two residences, one at *Chandegry*, and the other at *Vetlur*, to no small benefit. Amongst the Customs of these *Barbarians*, they have the inhuman custom for the Women to burn themselves with the Corps of their deceased Husbands. *Texera* saith, that the *Naique* of *Madure* deceasing in his time, his 400 *Wives* and *Concubines* cast themselves into the same Fire, and burnt themselves with the Kings Body. There was 375 burnt with the *Naique* of *Tanjaor*, in the year 1600, and as many or more with the last *Naique* of *Gingi*.

Its People.

As for the form and custom observed in the burning of these silly wretches, I shall borrow from Sir *Tho. Herbert*, as he hath it in his book of *Travels*, *p.* 362. where he saith, that the *Husband* being dead the *Wife* prepares her self for her Funeral, habiting her self in transparent *Lawn*; her Nose, Ears, and Fingers she adorns with *Precious Stones*, &c. but her Legs, Thighs and Arms she fettereth with Chains, which they hold as expressions of Love; in one hand she holds a Ball, and in the other a Nosegay of Flowers, both as Emblems of *Paradise*: and being thus habited, she is accompanied to the place by all her Relations, Friends, and Acquaintance, and all the way going the *Brachman* or *Priest* denotes the joys she is to possess, together with the assurance of enjoying her Husband in the *Elysium*: which words do much excite her to valour; so that when she cometh to the place, seeth the flame,

Here the Women burn themselves with the Corps of their deceased Husbands.

and the Carcass of her dead Husband, whom she longeth to be with in *Elysium*, being as it were like a hot-headed Lover, transported with joy, she takes leave of her Friends and Relations, and jumps into the flame, in which the Corps of her Husband was first put, which soon unites in Ashes; during which time they have several sorts of Musick: and to make the Ceremony the better, their *Branchman* exhorts them not to quit their Husbands, casting store of *sweet Wood* and *Oil* into the fire, to take away the unsavoury smell; and this Law was made, because the Women did frequently poyson their Husbands upon any discontent, and so took others: but as *Linscot* says, this is only a Custom for their Nobles and Priests, it being prohibited to the meaner People. A Custom, I think, not greatly to be desired by any; and besides this *Heathenish* Custom, they have several others as bad and Idolatrous; *Satan* having here displayed his Banner of Impiety, being a People for the most part averse to Law and Morality. Likewise the Custom which they observe in their Marriages is as strange; for the *Branchman*, with a *Cow* and the *Man* and *Woman*, go together to the Water-side, where the Priest (after he hath muttered a short Prayer) joyns their hands to the *Cows* Tail, and having poured upon them hallowed *Oil*, he forceth the *Cow* into the River, where she continueth a good while, and being come out they unty them; and this they hold for a solemn Marriage, and sacred for ever, the *Cow* being a creature which by them is highly esteemed and reverenced.

The Coast of *Choromandel*, and its Trade.

Among the places which are on the Coast of *Choromandel*, *Negapatan*, and *Maliapur*, belong to the *Portugals*, and formerly they alone of the *Europeans* had all the Traffick; now the *Hollanders* hold *Gueldria*, the *English* the Fort *St. George*, called by the *Indians Sadrapatan*; and both have their Factors throughout the Coast. *Negapatan* is great of Trade, though seated in an unhealthful Climate, uttering many valuable Merchandizes: They gather *Rice* in quantity sufficient to serve their Neighbours. *Maliapur* a small, but well known Town on this Coast, is the place where those of the Country believe that St. *Thomas* was Martyred and interred; and there were many *Christians* who called it *St. Thomas*, when the *Portugals* entred the *Indies*; they are still a considerable body, and may easily be made return to true *Christianity*. The old City is ruined; the new was rebuilt by the *Portugals*, where there is a Chapel dedicated to *St. Thomas*; and it is erected into a Bishoprick under the Archbishop of *Goa*.

MALABAR.

Malabar, its fertility, commodities, &c.

MALABAR is the last of the four parts we have proposed in the Peninsula of *Indus* without the *Ganges*; the least in Continent, but not in goodness. All the Country is healthful, fruitful, and rich: It hath little *Wheat*, but instead of it, it hath great plenty of *Rice*, *Mayz*, and other *Grains*, *Fruits*, quantity of *Drugs* and *Spices*, *Precious Stones*, *Silk*, *Ginger*, *Cassia*, and abundance of all sorts of *Beasts*, yields *Wood*, and such fair Trees for the *Masts* of great *Ships*, that *Norway* boasts not better; yet its greatest Riches consists in its *Pepper* and *Precious Stones*.

Its Limits.

Some extend *Malabar* from the River of *Aliga*, or from the Cape of *Ramos* unto that of *Comorin*; but all that is between the River of *Aliga* and *Cangerecora*, having already passed under the name of *Canara*, where the Kings are Tributaries to him of *Bisnagar*; we will follow the others, who limit *Malabar* between the River of *Cangerecora* and the Cape of *Comorin*; where there are many Kings, all once subject to the *Samarin* of *Calicut*: At present those of *Calicut*, *Cochin*, *Cananor* and *Coulan*, are the most powerful.

The Coast of *Malabar*, and its Parts or Kingdoms.

The Coast of *MALABAR* is about 250 Leagues in length, and is divided into several Kingdoms, of which the King of *Cananor* holds 20 Leagues, he of *Calicut* 25, he of *Cochin* 15, and he of *Coulan* with *Travancor* 40 and odd; the rest is possessed by many. Those of *Chambay*, *Montigue*, and *Barcelor* and *Cranganor*, are very near one another, and between *Cananor* and *Calicut*. Those of *Porca* and

and *Calecoulan* are between *Couchin* and *Coulan*; and he of *Travancor*, between *Coulan* and *Cape Comorin*, near which the Country is not so good as the rest of *Malabar*.

In the High-lands are those of *Cota* near *Cananor*, of *Auriola*, of *Cottagan*, of *Bipur*, of *Coucuran*, of *Panur*, and of *Curiga*; above *Calicut*, *Tanur* and *Cranganor*; Those of *Muverte*, of *Marta*, and *Batimena*, towards *Cochin*: In the Mountains are those of *Mangatt*, of *Paru*, of *Pimienta*, of *Changanana*, of *Trivilar*, of *Panapelli*, of *Angamale* (where there was an *Archbishop of Christians of St. Thomas*, reduced to a *Bishoprick*; and transferred to *Cranganor*:) two of the *Ticantutes*; of *Pumbali*, of *Caranaretto*, and others. The people called *Maledus*, and those of the Mountains *Pande* live in the form of a Republick. *Cotate*, near *Cape de Comori*, is of the Kingdom of *Travanco*, and hath good trading. *Calicut* is esteemed able to bring more than 100000 men into the Field; *Cananor* few less, *Cochin* and *Coulan* each 50000. They use little Cavalry, because the Country is low, moist, and divided by many streams. *Calicut* pretends to have some authority over all the Kings of *Malabar*, for which those of *Cananor*, *Cochin*, and *Coulan*, to which *Travancor* is sometime past united, seem to care little at present, a good part of the rest still hold for him.

Cananor, besides what it possesses in the firm Land, holds likewise some Islands among the *Maldives*, for having assisted one of their Kings against his Rebells; he possesses for the same reason the Isle of *Malicut*, 35 or 40 Leagues to the Northward of the *Maldives*: and the five Isles of *Diavandorou*, likewise 30 Leagues North from *Malicut*. All these Isles are small, *Malicut* of only 4 Leagues circumference, the others each 6 or 7: they are more healthful than the *Maldives*, their Inhabitants rich, and trade to the Continent, to *Malabar*, and to the *Maldives*, and elsewhere.

Cochin hath gained some reputation since it allied it self with the *Portugals*, by whose means it is freed from the tribute it ought to the King of *Calicut*, and hath drawn to its Estates the greatest trade of all *Malabar*; and the City is so increased, that it is not now inferior to *Calicut*.

The chief Cities.

And in all these Kingdoms aforementioned, contained in (and along the Coasts of) *Malabar*, there are several good, large, and well built Cities, being well inhabited, rich, and of a considerable trade; but those of most note in the said Kingdoms are called by the same names, as that in *Calicut*, *Calicut*; that in *Cananor*, *Cananor*, &c.

The Natives and Inhabitants of *Malabar*.

The Original Inhabitants of *Malabar*, are divided into *Bramens*, *Nayres*, and *People*. The *Bramens* are the *Priests*, *Sacrificers* to *Idols*; some addict themselves to *Arms* with the *Nayres*, others to trade; but to whatsoever vocation they apply themselves, they have a particular manner of living. The *Nayrs* addicted themselves wholly to *Arms*. The *People* meddle only with labour, Manufactures, Fishing, &c. and are like Slaves.

Besides the *Natives*, there are many Strangers, who live only on the Coast, and these are called *Malabares*, whence the name is communicated to the Country. These *Malabares* are *Mahumetans*, whereas the others are *Pagans*, and very Superstitious, worshipping an *Idol* seated on a Brazen Throne, and Crowned, but of a horrid form, enough to fright one; and unto this *Idol*, besides their *Religious Ceremonies*, they offer up the Virginity of all their Daughters before they are married, or else to their *Priests*. This *Idol* having in the place of his Privy parts, a sharp bodkin of Gold or Silver fastned, on which the Bride is forcibly set; which by reason of the sharpness forceth great store of blood to come; and if, though by her Husband, she proves with Child the first year, they believe this *Idol* got it, which they highly esteem; but by reason of the pain, the *Priests* by enjoying them first, doth quit them from the other, out of which two, all are served: they commonly marry at 10 or 12 years of age; they are very black, and well limbed; they wear their Hair long, and curl'd about their shoulders; they go naked, having only a cloth about their middle to hide their nakedness, which hangs down to their knees; they are treacherous, cruel and bloody-minded; there are likewise some *Jews*, and since the *Portugals* have set footing, many *Christians*, besides those which they call of St. *Thomas*; these being of the Mountains, and those of the Coast.

The

The Peninsula of INDIA, within the GANGES.

Its bounds.

THE *Peninsula* of *India*, which is beyond or within the *Ganges*, is our third and last part of the *Asiatique*, or *East-Indies*. We will give unto it all that rests of *India* unto *China*, and bound it on the East by *China*, and by the Sea of the *Philippine* Islands; on the South with that *Sea*, which flows amongst the Islands of *Sonde*; On the West by the *Sea* or *Gulf* of *Bengala*, and by the Estates of the *Mogoll*; and on the North we will stretch it as far as the *Tartars*: so that it will take up all *India* beyond the *Ganges*, what is possessed by the *Mogoll* excepted.

It Kingdoms and parts.

We have in this *Peninsula* a great number of Kingdoms, which we will consider under the three Principal ones; *viz. Pegu*, *Sian*, and *Cochinchina*. Under the name of *Pegu* we will range all those Estates and Kingdoms which lie upon the River, which descend from the Lake of *Chiamay* unto *Pegu*; under the name of *Sian*, all the Estates and Kingdoms which are about *Sian*; and under that of *Cochinchina*, all that is neerest to and on the West West of *China*. This last part is most Easterly of the three, the second most Southerly, and the first more to the West; and this hath almost all been subject to the King of *Pegu*; the other to the King of *Sian*, and the last was part of *China*.

PEGU.

The Kingdom of *Pegu*, and its parts.

THE Kingdom of *PEGU* when in its splendor was so rich and powerful, that some would equal it to *China*. *Vincent Blanc* saith that it contained two *Empires*, and 26 Kingdoms or Crowned Estates; I believe that the two *Empires* were *Pegu* and *Siami*, or possibly *Sian*, this having been subject or tributary to *Pegu*: and the *Kingdoms* are *Martavan*, *Manar*, *Tangu*, *Marsin*, *Jangoma*, and *Brama*, whose chief Cities are *Pegu*, *Brema*, *Canarane*, *Pandior*, *Cassubi*, *Ava*, *Boldia*, *Mandranelle*, *Tinco*, *Prom*, *Dunbacam*, *Tolema*, *Maon*, *Arracon*, *Largaray*, *Cassubi*, *Ledoa*, *Tipoura*, *Xora*, and *Chacomas*. The greatest part of these Estates taken apart, are rich, and powerful, being able to set forth to War, some 2, some 3, some 400000 men. They have in many places Mines of *Gold*, *Silver*, and *Precious Stones*, besides *Grains*, *Fruits*, *Herbs*, *Fowl*, and *Beasts*, which are here found excellent. The *Kingdoms* of *Tangu* and of *Brama* are the most powerful; since this hath sometime seized, and the other with that of *Arracan* ruined the Estates of *Pegu*.

Brama and its fertility, and chief places.

Brama besides its Mines of *precious Stones*, hath *Benjamin*, *India-Lake*, and certain *Herbs*, from which they take *Silk*; they make divers *Manufactures*, particularly *Caps* much esteemed. *Ava* abounds in all sorts of *Victuals*, hath divers *Metals*, *Musk*, and *Rubies*. *Canelan* hath the finest *Rubies*, *Saphires* and other *Stones*. *Prom* hath *Lacque* and *Lead*. *Tinco* fetches many Merchandizes from *China*. *Vincent Blanc* esteems the City of *Canarana* as rich and magnificent as any in *India*; he places it between the Rivers of *Siama*, and of *Caypoumo* or *Pegu*, giving it four Leagues Circuit, and making it Metropolis of the Kingdom of *Caypoumo*, which is likewise called *Canarana*. This Country hath *Turquesses*, and *Emeralds* the fairest of all the East. *Cassubi* is in a Plain, bounded with high Hills, from whence descend many streams, which water the Plain, where there are excellent *Fruits*, among the rest *Pomegranates* the largest and best of *India*, excellent *Raisins* and *Manna*, which must be gathered before Sun-rise, which else dispatches it. Their Mountains are filled with savage *Beasts*, where they get the *Skins* and *Furs* of *Ermines* and *Sables* of divers sorts, all very exquisite. The people of *Transiena* are fair, and white; the *Women* exceeding beautiful, and the *Men* very proud: They have *Mines* of *Gold*, *Silver*, and *Diamonds*; their King keeps ordinarily 50000 Horse, 1000 Elephants,

phants, and paies his tribute to the King of *Pegu* in Horses, which are very excellent. Their *Forests* have many *Wild Beasts*; among the rest, that which gives the *Bezoar*. The Inhabitants of *Boldia* are esteemed the most honest and civil of all these quarters: So that they cannot but be people of Trade; and indeed all these Kingdoms have divers *Commodities* which make them rich.

Pegu exceeding rich in Gold, Silver, and Precious Stones.

The Kingdom of *Pegu*, which hath commanded, and had for Subjects or Tributaries almost all these Estates, and likewise others towards *Sian*, and *Sian* it self, cannot but be extreamly rich and powerful. And truly, *Gold*, *Silver*, *Pearls*, and *Precious Stones*, have been as common in the *Courts* of the Kings of *Pegu*, as if all the *Orient* had brought all its Riches thither. The *Floors* of *Buildings*, the *Moveables*, and the *Vessels*, with which they served themselves for divertisement, were so inriched within and without, with *Gold* and *Azure*, that it is not imaginable, if we did not know this to be the *Aurea Regio*, and likewise the *Argentea Regio* of *Ptolomy*: Yet this must be believed to have been long since; but however, that it is at present the richest Country of all the *Indies*: And for the same reason, one of the best peopled, and most powerful.

Its fertility and Commodities.

This Country, by reason of the overflowing of the River *Pegu*, which runs through the Kingdom, makes it become exceeding fruitful, and of a fat and rich soyl; so that it produceth great abundance of *Grains*, *Fruits*, and other products of the Earth in great plenty. Also *Beasts*, *Fowl*, and *Fish*, great store of *Civet-Cats*, from whom they take *Civet*, *Lacque*, which is made by *Ants* (as *Bees* make *Wax* with us) *Gold*, *Silver*, *Precious Stones*, *Drugs*, *Spices*, *Lead*, *Sugar*, &c. This Kingdom hath plenty of good Towns and Cities, its *Metropolis* bearing the name of the Kingdom. It is divided into the *Old* and the *New*; the one and the other together make a Square; being encompassed with a strong Wall, and a great Ditch well fortified, having on each side five *Gates*, besides many *Turrets* richly beautified. It is large, strong, rich, and stately; the King and his Nobility and Courtiers takes up the *New City*, which is separated from the *Old* by a Wall and Ditch well watered; in which are kept many *Crocodils* for the watching the place by night: The *Wall* hath several *Gates* on all sides, for the convenience of the people to pass in and out. The *Streets* are very fair, straight, and so broad, that fifteen men may ride a-breast on both sides. The *Houses* well built, having before every door *Palm-trees*, which are set, not only to make a pleasant show, but also to keep the Passengers from the heat of the *Sun*, which is very great.

The City of *Pegu*, the chief of the Kingdom, described.

The *Palace Royal* is seated in the midst of the City, having its particular Wall, Moat, and other Fortifications; the *Palace* being very stately and large, the greatest part of the *Buildings* being sustained by *Pillars* of *Jet*, and all the *Stones* so shining, that those which are without, represent the Neighbouring *Gardens* and *Forests*; and those which are within the *Paved Chambers*, other *Rooms*, and the *Ceilings* above, so well, that one seemeth to walk on *Gold* and *Azure*. Nor doth this his stately *Palace* exceed his Magnificence and Pomp, without which he is never so much as seen. The *Old City* is inhabited only by *Merchants*, *Artificers*, and *Sea-men*, where there is great store of *Ware-houses* strongly built of *Brick* to prevent fire (which the City is much subject unto,) in which the *Merchants* keep their *Goods*. And for the better encrease of *Trade*, the *King* doth constitute Eight *Brokers*, whose Offices are to look after and sell the Goods, as well of *strangers*, as the *Inhabitants*, giving a very just account thereof: For which, they are allowed two pence *per Cent*. The like is observed in the buying of *Commodities*. And these *Brokers* by their places, are obliged to provide *Strangers* or *Merchants* with a *House*, and orders certain *Maids* of the City to go to him, that out of them he may make his choice; which done, he contracts with her friends to pay them a certain sum for the use of her, as they can agree, which is not great; and this *Maid* serveth him as his *Servant* by day, doing what he commandeth; and as his *Wife* by night: And at the expiration of the term agreed upon, he leaveth her; and she goeth to her Friends without any disgrace at all.

The Palace Royal.

The People, their Habit.

The People are of a mean stature, nimble and strong, great lovers of *Women*, which takes them from warlike affairs, in which they are not very expert. Their *habit* is but mean, contenting themselves for

for the most part, with a piece of *Linnen* to cover their nakedness; they all black their *Teeth*, because they say *Dogs* teeth are white. They are generally all *Pagans*, and believe that *God* hath under him several other *Gods*; that he is the *Author* of all good which arriveth to mankind: But he leaveth all evils which belong to man, to the *Devil*; by reason of which, they so much adore and fear him, lest he should hurt them; which *God*, being good, they say, will not. Their *Devotion* they perform on *Mundays*, their *Priests* going about with *Tin-basons*, making a noise to waken the *People*, and inviting them to their *devotions*, in which they chiefly exhort them to *Morality*, as to avoid *Theft*, *Adultery*, *Murder*, &c. and to love *Vertue*. They have a great esteem for their *Priests*, who live a very solitary and exemplary life. They have Five principal *Feasts* which they observe very strictly, ceremoniously, and with great state and pomp. They that Marry buy their *Wives* of their *Parents*; and when he is weary of her, he may send her home, but must lose the Money he paid for her: But if she leave him, as she may do, then he may receive the Money paid for her.

Their belief.

Marriage not kept during life.

SIAN or *SIAM*.

THe Kingdom of *SIAN*, and those Estates, which we will comprehend under the name of *Sian*, are to the *North* of *Pegu*. We may consider them in two principal parts; of which, one shall retain the name of *Sian*, and the other that of *Malacca*. This latter is a *Peninsula*, which extends it self from the first degree of *Latitude*, unto the 11 or 12; from whence the first advances it self into the Main Land, unto the 19 or 20 degree on this side the *Equator*. They reach then each 250, and together 4 or 500 Leagues from South to North. But the *Peninsula* of *Malacca* is very streight, not being above 10 or 12 Leagues broad in the *Isthmus*, which separates it from *Sian*; in other places 20, 30, 40, and sometimes 80. *Sian* is almost of an equal length and breadth.

Kingdom of *Sian*, its parts.

Its extent.

Under the name of *Sian*, separated from the *Peninsula* of *Malacca*, we comprehend the Kingdoms of *Sian*, *Martaban*, *Jangoma*, and *Camboya*; under the name of *Malacca*, those of *Tanacerin*, *Juncalaon*, *Singora*, *Queda*, *Pera*, *Patane*, *Pan*, *Malacca*, *Ihor*, and others, as in the *Geographical Table*.

The Kingdom of *Sian*, especially so called, hath several Cities of note, *viz.*

The chief places of the particular *Sian*.

First, *Odiaa* which some call *Sian*; the *Metropolis* being a City of a large extent, a place of so great strength, that in 1567. they stoutly defended themselves against an Army of 1400000 fighting Men, which the King of *Pegu* brought against them, for twenty Months together: By reason of which, together with several other mutations that have since hapned amongst them, the City hath been much eclipsed of its former beauty, splendor, and riches; yet by reason of its commodious scituation on the River *Menam*, is still a place of great *Trade* and *Commerce*, is rich, and populous. The Houses are built very high, by reason of the annual overflowing of this River about the Month of *March*: So that it covereth the *Earth* for about 120 Miles in compass; which renders these Countries very fruitful, as the *Nile* doth *Egypt*. During this Inundation, Its *Inhabitants* retire to the upper Rooms of their Houses; and to every House there is a Boat, or other Vessel belonging; by which means, they negotiate their affairs, until the River returns to her usual bounds.

Its Commodities and Trade.

The principal *Commodities* of this City, or indeed of the Kingdom, are *Cotton-Linnens* of several sorts, *Benjamin*, *Lacque*, of which they make excellent *Hard Wax*; Also that costly Wood which the *Portugals* call *Palo Dangula*, and *Calamba*, which is weighed against *Silver* and *Gold*; for rich *Perfumes*; and the Wood *Sapon*, used by *Dyers*; also *Spices*, some *Drugs*, *Diamonds*, *Gold*, *Camphora*, *Bezar-Stones*, *Musk*, *Porcelaine*; and lastly, that excellent *Wine*, or *Distilled Liquor*, which they call *Nipe*, which they make of *Cocos* or *Indian Nuts*, being of great esteem over all *India*, and elsewhere.

Its other places are *Bankock*, noted for excellent *Pepper*. *Lugor* seated on the Sea-shore, and *Socotay*, famous for having a *Temple* only made of Metal, which is

is 80 Spans high, and answerable in length and breadth, being adorned with abundance of Idols, built by one of their Kings at his coming to the Crown.

The Kingdom of *MARTABAN*, towards the Gulph of *Bengala*, is contiguous to *Pegu*, to which it hath been subject, at present is to *Sian*. This Kingdom hath many Ports frequented for Trade; for besides its *Grains*, *Fruits*, *Oils*, and *Medicinal Herbs*, it is rich in Mines of *Gold*, *Silver*, *Iron*, *Lead*, *Steel*, and *Copper*. It hath *Rubies*, *Lacques*, and *Benjamin*, &c. And they make Vessels of *Earth*, which they call *Martabanes*, of which some are so great, that they hold a Bushel. This is a kind of *Porcelain* varnished with black, and wherein they keep *Water*, *Wine*, *Oil*, and all sorts of Liquors; and for this reason they are esteemed in all the East.

Martaban, its commodities, &c.

JANGOMA, on the confines of *Pegu*, *Siam*, and *Brama*, hath been subject or tributary sometimes to one, and sometimes to another. It hath *Gold*, *Silver*, *Copper*, *Musk*, *Cotton*, of which they make Manufactures, *Pepper*, &c. Its People are more addicted to Horse than Foot service.

Jangoma, and its commodities.

CAMBOJA is the last and most Southerly part of the *Peninsula*, which is between the Gulphs of *Sian* and *Cochin-china*. The principal Cities are *Ravecca* and *Camboja*, of which the Kingdom takes its name, which is under the 10*th* or 11*th* degree of *Latitude*, and on the principal and most Easterly branch of the River *Menam*, which (as it is believed) comes from *China*; but it should be said from some Regions formerly subject to, or which were part of *China*.

Camboja.

The People in their Manners and Customs resemble those of *Sian*, whose Subjects they have been, and whose Tributaries but lately they were.

Its People.

MALACCA.

IN the *Peninsula* of *Malacca* are divers Kingdoms, which are taken notice of in the *Geographical Table*; which all (except the City of *Malacca*) are likewise tributary to that of *Sian*. *Tenasserin* is a Country of Trade, by reason of its *Archipelago*, which contains several *Islands*; and of its *Isthmus*, which facilitates the transportation of Merchants from one Sea to another; and of its Ports, which are commodious. Its other places are *Juncalaon*, *Zueda*, *Pera*, and *Malacca*, all which places afford *Nipe* of *burning Wines*.

Peninsula of *Malacca*; its parts, commodities, &c.

IHOR is beyond *Cape de Sincapura*, and on the utmost point of the *Peninsula*: Its chief City was taken and ruined by the *Portugals* in 1603, who took from thence 1500 Brass Cannons. The King of *Ihor* for revenge besieged *Malacca* in 1606 with 60000 Men, but was constrained to raise his Siege; there are some petty Kings which are his Tributaries. *Pahang* hath *Lignum Aquila* and *Calamba*, near to that of *Cochin-china*; of *Camphire*, like to that of *Borneo*; *Gold*, but of a lower alloy than ours; *Petra Porea*, of near as much vertue as the *Bezoar* against poyson; *Diamonds*, *Nutmegs*, *Mace*, &c.

Ihor, its chief places and commodities.

PATANE within few years is grown famous, the Kingdom being frequented by divers Nations, particularly by the *Chinois*, who bring thither *Porcelaine*, divers Manufactures and Instruments of Husbandry; instead of which they carry back *Timber* for Building, *Cordage* made of *Cocos*, *Rice*, and divers *Skins*, &c. The *Pepper* is excellent, but dearer than at *Bantam*. Their *Sarey-Boura*, that is, the matter of *Swallows Nests*, which we shall speak of in *Cochin-china*, is much sought after. The Soil is good, producing Fruit every Month in the year. Their *Hens*, *Ducks*, and *Geese*, often lay Eggs twice a day. Amongst an infinite number of Fowl they have *white Herons* and *Turtles* of various colours, like *Paroquetoes*.

Patane, and its Trade.

Patane, *Singora*, *Brodelong*, and *Ligor*, are on the same Gulph, which may be called also by *Patana*, and makes part of that of *Sian*: *Patane* and *Ligor* towards the two ends; *Singora* and *Brodelong* in the midst, and at the bottom of this Gulph; and these two last are head Cities of Provinces (others call them Kingdoms) under *Sian*; the two first Kingdoms are tributary to *Sian*: They have nothing particular above *Patane*, to which they are all united.

The City of *Patane*, and its Trade.

The chief City of *Patane* takes its name from its Kingdom so called, seated on the Sea-side betwixt *Malacca* and *Siam*. Its Houses are well and handsomly built, either of *Timber* or *Canes*. The *Palace Royal* is encompassed with a *Pallisado*, and its *Mosques* are made of *Brick*. This City (as also the whole Kingdom) is very populous, and enjoying a good Trade. Its People are inclined to a Swarthy brown complexion, well proportioned, ingenious, using Arts, especially *Navigation*; but above all, great lovers of *Women*. The Country affordeth most of the *Indian* Commodities, by reason of which it hath a good Trade.

The City of *Malacca*, and its Trade.

Malacca, a City and Kingdom, is at present the most famous of all those which of the *Peninsula* we have comprehended under the name of *Malacca*: It hath been subject to the King of *Siam*. A particular King had made himself Master of it, before that the *Portugals* entred the *Indies*; the Country remaining still to the Kings of *Siam*. That which hath made this City great, rich, and powerful, (though the Air be unhealthful, and the Soil almost barren) is the advantage of its scituation, being seated on the River *Gasa*, which is about 3 Leagues broad, and in the center of the firm Land, and of all the Islands of the *East Indies*, commanding a Streight, which is the Key which makes it the Staple of all the *Indian* and *China* Commodities; by reason of which it is a place of great Traffick, and very populous, containing about 12000 Families, besides Strangers. Its Houses are low, and not over curiously built, and the Streets narrow; the City is about 2 miles in length, and of half the breadth, being a place of good strength, and defended by a strong Wall and Castle; is watered by the River *Gaza*, and the chiefest place of pleasure is the *Buzzar*. Before, and nigh to this City, are the Islands by the *Portugals* called *Ilha de Naos*, and *Ilha de Pedra*. The usance of divers Nations of the *Indies* hath so fashioned the *Malayois* Language, that it is the best and most elegant of all others.

Arbor tristis, a great rarity.

Among the Rarities of *Malacca*, or rather among the wonders of the World, may be counted *Arbor tristis*, or the *Sad Tree*, which bears Flowers only after Sun set, and sheds them so soon as the Sun rises, and this it doth every Night throughout the whole year. These Flowers are almost like to (but fairer and more odoriferous than) *Orange Flowers*. Some of these Trees have been transported and brought as far as *Goa*, and some other places of the *Indies*; but no care could ever preserve them unto *Europe*.

The People of *Siam*, their habit, disposition, &c.

The Provinces of this Kingdom of *SIAN* are very populous, especially those which have the benefit of the Sea or navigable Rivers; but inhabited by different People, but for the most part well proportioned, of a Swarthy complexion, more addicted to *Venus* than *Mars*; ingenious, but lazy, unconstant, and deceivers. Their habit is a painted Cloth, which they wear about their middle, and hangeth down to their knees; besides which the Men wear short Shirts, and the Women cover their Breasts with a piece of Linnen, which they tie about their Necks, all observing one fashion; the Persons of Quality being only known by their attendance. Their *Marriages*, *Burials*, and other Ceremonies, are much the same as those aforesaid; they bring up their Children very well, instructing them in Arts: by which, according to their abilities, they are advanced to preferment. In their Punishments they are severe and different, according to the nature of the crime.

Their Arms.

His Army doth consist of his own Subjects in the nature of our *Trained-Bands*, which are to be ready upon all occasions, and not of a standing Army. Their Arms are *Bows* and *Arrows*, *Swords*, *Pikes*, and *Bucklers*; they have no *Fire-Arms*; their *Horse* is not good, their chief strength consisting in their *Elephants*.

The Kings of *Siam* absolute Monarchs, are rich, powerful, and live in great state.

The Kings of *Siam* are esteemed absolute Monarchs in their Dominions, making and breaking Laws as they please; imposing Taxes on their Subjects; punishing, condemning and seising the Estates of those who speak or act contrary to their minds; make War and Peace as often as they please. These and the like actions he doth of himself, without consent of any; yet he hath a Council, which are his Nobles, of whom he will hear their Opinions and Advice, but act as best pleaseth him. He hath but one Wife, who bears the title of a Queen, but hath many Concubines. In his Apparel and

and Attendance he is very magnificent and stately, not stirring abroad without great pomp; by reason of which, as also through his austerity, he hath great veneration shewed him. His Revenue is very great; he bestoweth his Honour or Preferment on those who best please him, not regarding Birth and Education, it being not hereditary. For the administration of Justice, most Cities have their Jurisdictions and Judges.

This great Kingdom is not in all places alike; for in some parts it is covered with Wood, in others Mountainous, and to the Sea-side, Marshy, Flat, and Fertil, affording divers and rich Commodities, as aforementioned; and being plentifully furnished with *Rivers*, *Bays*, and *Harbours*, for the conveniency of Shipping.

COCHIN-CHINA, TUNQUIN, &c.

Cochin-china, its bounds and extent.

I Esteem under the Name of *COCHIN-CHINA* taken in general, all that lies to the Eastward of the Kingdoms of *Camboja*, *Siam*, *Pegu*, and *Ava*, &c. to the Westward of *China*, and the Gulph of *Cochin-china*; and which is washed on the South with the *Oriental Ocean*, and bounded on the North by those high Mountains which limit *Tartary*; extending it self from the *9th* degree of *Latitude* on this side the *Equator*, unto the *34th* or *35th* towards the North, which make more than 6000 Leagues; the breadth not being above the *8th* or *10th* part of its length.

Its Name, why so called.

The name of *Cochin-china*, according to some, signifies *West China*: so the Natives of the Country call it *Oniam* or *Anam*, that is, the *Occidental Quarter*; and this extends to the view of *China*, of which it was once part, and whose *Language*, *Manners*, *Customs*, *Government*, *Religion*, and other Ceremonies they yet retain, (which having occasion to treat of in *China*, as more convenient, for brevities sake I omit them here, referring the Reader to the description of *China*.) But these Quarters being retired from the subjection of the *Chinois* above 800 years ago, were a little after as easily divided into divers Estates. The name of *Cochin-china* being kept in the most Southern parts; that of *Tunquin* having taken the middle and more Northernly parts, passing under the name of the People called *Lays*, the Kingdom of *Ciocangue*, the People *Gueyes*, *Timocoves*, &c. who have in part taken and received the manners and barbarousness of the *Tartars*, their Neighbours.

Its parts and chief places.

Cochin-china likewise is divided into *Chiampaa* and *Cochin-china*: *Chiampaa*, between *Camboja* and *Cochin-china*, regards the Isles of *Sonde* towards the South; the *Philippines* towards the East, and touches on *Tunquin* to the North. Its principal City bears the same name, according to most Authors; but according to others, *Pulocacein*. It hath nothing which is not common to *Cochin-china*, and therefore we shall say no more.

Cochin-china particularly taken, is better known than all the neighbouring Countries, because it is wholly upon the Sea, having 150 Leagues of Coast, and not above 40 or 50 in breadth, between the Mountains of *Kemoys* (a barbarous People) and the Sea. Its Provinces are descending from North to South: *Sinuva*, *Cacciam*, *Quangiva*, *Quingin* or *Pulacambis*, and *Ranran*. The two first touch upon *Tunquin*, the last touch on the Kingdom of *Chiampaa*. The King makes his ordinary residence in the Province of *Sinuva*, or at *Cacciam*, Cities of the same name with their Provinces.

Its fertility, commodities, temperature, and people.

All the Country is fertil, abounding in *Rice*, *Fruits*, and *Herbs*, breeding many *Fowls* and *Beasts*, and the Sea excellent *Fishes*. It produces *Cinnamon*, *Pepper*, *Lignum Aquilæ*, *Calamba*, and *Benjamin*. Its temperature is pleasant, though under the *Torrid Zone*; the Air healthful, and the Soil so abundant in all things, that the Inhabitants have no knowledge either of Contagion or Famine. They have *Gold*, *Silver*, *Silk*, *Porcelain*, and divers other Valuable Commodities. All sorts of Nations frequent its Coast, by reason of the goodness of its Ports; and because its Inhabitants are Courteous, Liberal, kind to Strangers, and faithful in their dealings.

They are couragious, and more warlike than those of *Tunquin* or *China*, handling all sorts of Arms with no small activity. They are Idolaters: *Christianity* was introduced in 1620, and began to flourish; but their Kings have of late very much persecuted them.

Several Rarities here found.

Amongst the particularities and rarities of the Country, we must place the *Lutt*, an Inundation, which in Autumn covers with its Waters almost all the Country; it renews from 15 to 15 days, remaining only 3 days at a time, making the Earth so fruitful, that it brings forth its increase twice or thrice a year. Their *Saroy-Boura*, or matter wherewith certain *Swallows* make their Nests, which after those Birds leave dry and hardned, they gather in great quantities, which being steeped and moistned in Water, serves for Sawce to all sorts of Meat; and as formerly *Manna* communicating such a variety of taste, that it seems to be composed of *Cinnamon*, *Cloves*, *Pepper*, and other Spices. Their *Lignum Aquilæ* and *Calamba* come from the same Tree; the first from the Trunk of a young Tree, the last from the Trunk of an old Tree: but this last is much more esteemed than the other, both for its odour and vertue. A pound of it on the place where it is beaten down is worth 5 *Ducats*, being brought to the Port, 15 or 16; and if transported to *Japan*, 200. If some piece be found to make a whole Pillar, it is worth 3 or 400 *Ducats* the pound. The *Lignum Aquilæ* amongst other things, serves to burn the dead Bodies of their Kings, Princes, and Priests.

Wood as heavy as Iron, and which consumes not, except burnt.

Among the Wood they use for Buildings, there are two sorts which they call uncorruptible, whether in Water or Earth; their Trees they call *Thins*: the Wood of the one is near as black as *Ebony*, the other near the colour of *Yew*. Both the one and the other taken out of the Bark is smooth and glib, so solid and weighty, that it sinks to the bottom of the Water, and serves also for Anchors for *Ships*. They make Pillars, on which they erect their Buildings; and before the time of the *Lutt*, they drive Joists and Planks between those Columns, and with *Canes* and *Reeds* accommodate divers Apartments, which they take away in the time of those Inundations, that the Water may run the freer.

TUNQUIN.

The Kingdom of *Tunquin*, its bounds, extent, and situation.

THe Kingdom of *TUNQUIN* is part on the Sea, and part on the Main Land; it bounds on the Sea at the bottom of the Gulph of *Cochin-china*, there where it divides *China* from *Cochin-china*, and hath about 150 Leagues of Coast. On the Land it extends it self from the seventeenth degree of *Latitude*, on this side the *Equator*, unto the twenty third, which are likewise 150 Leagues from North to South: Its breadth being only about 100 Leagues from East to West.

Its Parts.

This Kingdom contains Seven Provinces, of which the three most Southernly are, *Bochin*, *Gehan*, and *Tinhoa*; the four most Northernly are, *Beramar*, *Kedom*, *Kenam*, and *Kethay*. *Bochin* touches on *Cochin-china*, and the two other advance along the Gulph towards the North; amongst the four last, *Beramar* and *Kedun* are towards *China*, *Kenan* and *Kethay* towards the *Layes*. The King of *Tunquin* ordinarily entertains a Militia of 50000 Men, taken from the three Southernly Provinces, and paid by the four Northern, because these last lately revolted, and the other remained in obedience.

The King very powerful.

Its chief Places.

Kecchio is the chief City of the Kingdom, where the King ordinarily resides. It is not above twenty miles in circuit, but hath a Million of Inhabitants. Some Authors will have it called *Tunquin*, that is, the Court of the West, and that the Kingdom took its name from it. The Land hath beautiful *Plains*, and watered with many great *Rivers*; which with the *Rains* and melting of the *Snow*, which descends from the Mountains that separates it from the *Layes*, the Kingdom of *Ciocangue*, *China*, and *Cochin-china*, make it fruitful

fruitful by their Inundations, rendring it better and more abundant than *Cochin-china*. Yet hath it neither *Corn*, *Vines*, nor *Olive Trees*; but they gather *Rice* twice a year, of which they make Bread; they fetch in *Wine*, and instead of *Oil* make use of the matter taken from *Swallows* Nests, of which they have no less quantity than *Cochin-china*. They have neither *Asses* nor *Sheep*, but many *Horses*, *Elephants*, and *Rhinoverotes*, whose Flesh, Skins, Bones, Teeth, Nails, and Horns, serve for Antidotes against Poyson; they have so much *Pullain*, *Pigeons*, *Turtles*, and other Fowl, that they give them almost for nothing.

Its fertility and commodities.

Amongst their Fruits they have fair *Pomgranates*, which beyond the ordinary excellency of that Fruit hath here a particular and delightful Juice. For *Fish* they make account, that in the Seasons there daily goes 10000 *Barks* out of their Ports to Fish. The *Catholick Religion* was so introduced here some years past, that there was esteemed to be more than 200000 *Christned Souls*, 200 great *Churches*, and a great quantity of *Chapels* and *Oratories*: there hath since happened divers changes. In these Kingdoms the *Portugals* have several Towns and Cities, by which they have a great Revenue.

They embrace Christianity.

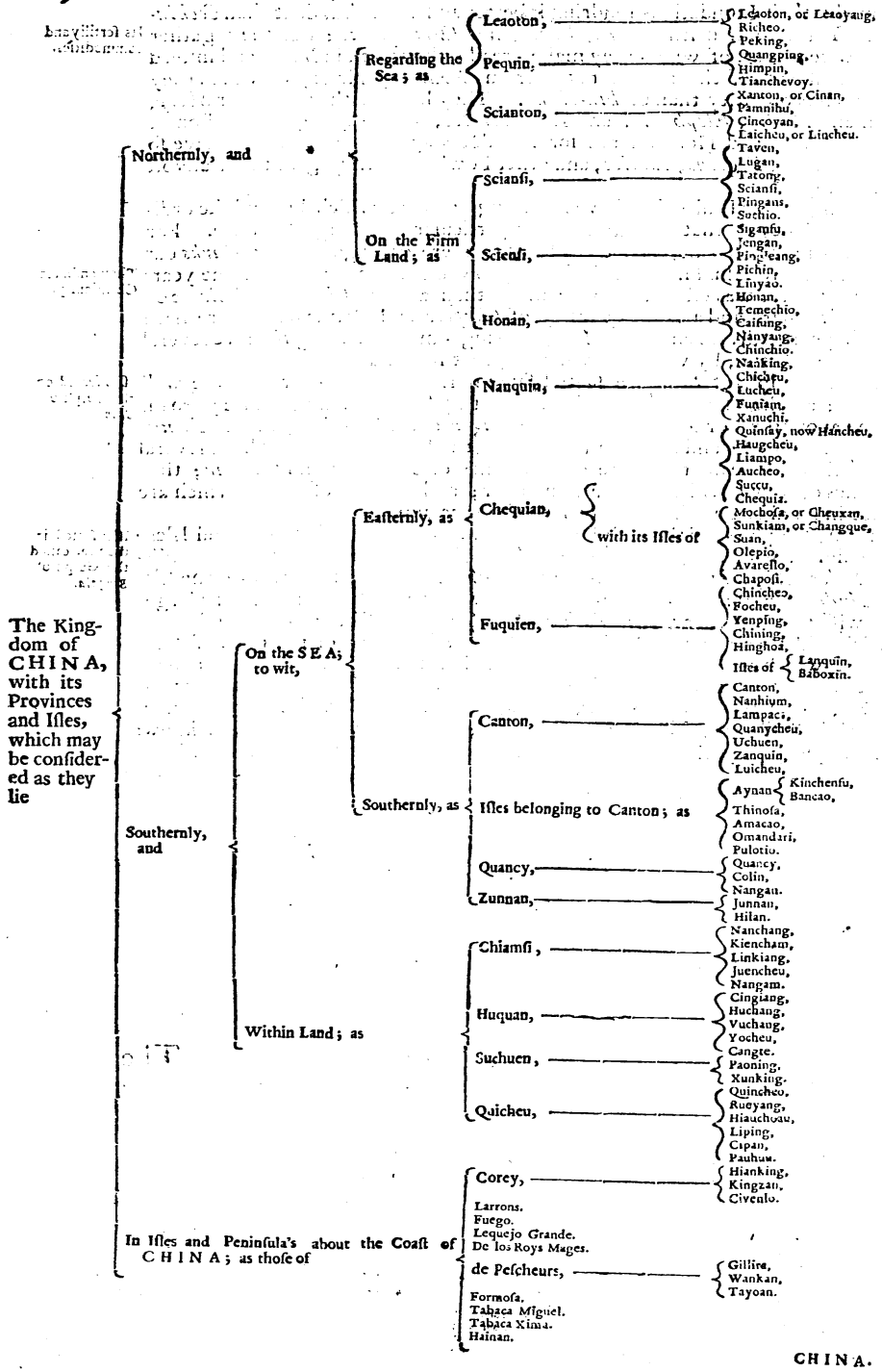
Isles seated on the Gulph of *Sian*.

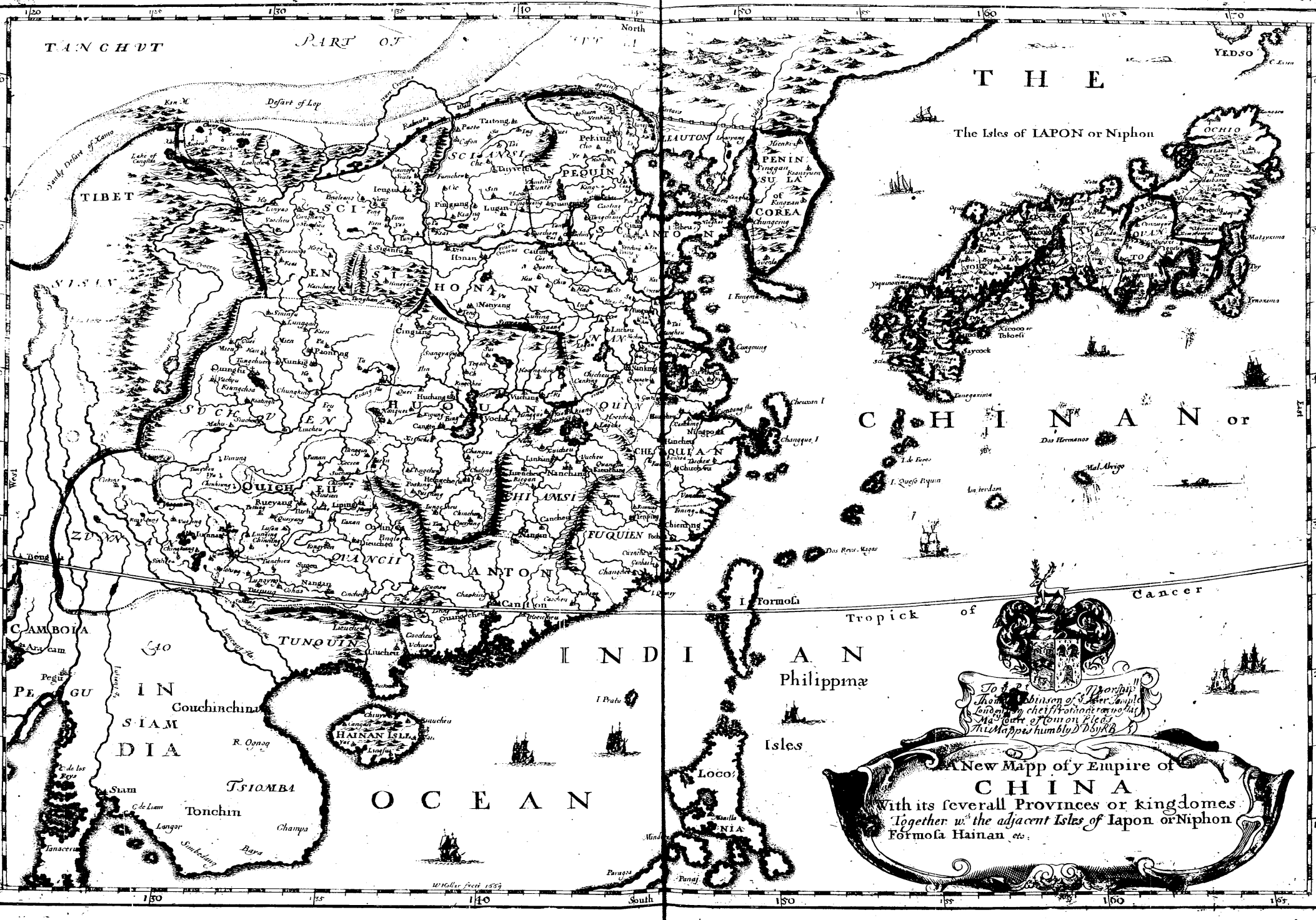
In the Gulph of *Sian* are seated several Isles, some of which are well known; as the Isle of *Goeteinficos*, about 27 Leagues long, and 15 broad, seated about three or four Leagues from *Ligor* and *Bordelong*, in the *Peninsula* of *Malacca*; and between this Isle and the Land of *Malacca* lieth several small Isles. The next of note are the Isles of *Macaria* and *Panian*; then the Isles of *Cara*, which are four in number; and the Isles of *Cosyn*, which are three in number; with several others of no account.

Isles seated in the Sea, called the Gulph of Bengala.

In the Gulph called the Gulph of *Bengala*, are likewise seated several Isles; the chief of which are the Isles of *Chubedu*, *Chudube*, and *Ledoa*, of *Dos Alevantados*, *Aligada*, and *Durondiva*, whose chief place is *Siriaon*; the Isles of *Andemaon*, which are 10 in number, two of which are indifferent large; likewise the Isles *dos Cocos*, *dos Caboses*, *Tanasseri*, *Tavay*, *Alta*, and *Craro*, which said Isles are not far distant from the Sea-shoar of the Land of *Sian*, two of which are each about 20 Leagues in length; and the one 10, and the other about 7 in breadth. Also in this Gulph are the Isles of *Caremubar*, of *Raza*, *dos Sombreros de Palm*, *Siano*, *Sambilano*, *Batun*, *Pera*, *Pinaon*, *Canal de St. Georgo*, *Nicubar*, and others; many of which are well known and frequented by Merchants, affording several of the *Indian* Commodities.

The


The Kingdom of CHINA, with its Provinces and Isles, which may be considered as they lie
Northernly, and
Southernly, and
On the SEA; to wit,
Within Land; as
Easternly, as
Southernly, as
Regarding the Sea; as
On the Firm Land; as
Leaoton,
Pequin,
Scianton,
Scianſi,
Scienſi,
Honan,
Nanquin,
Chequian, with its Isles of
Fuquien,
Canton,
Isles belonging to Canton; as
Quancy,
Zunnan,
Chiamſi,
Huquan,
Suchuen,
Quicheu,
Corey,
Larrons.
Fuego.
Lequejo Grande.
De los Roys Mages.
de Peſcheurs,
Formoſa.
Tabaca Miguel.
Tabaca Xima.
Hainan.
In Iſles and Peninſula's about the Coaſt of CHINA; as thoſe of
Leaoton, or Leaoyang,
Richeo.
Peking,
Quangping,
Himpin,
Tianchevoy.
Xanton, or Cinan,
Pamnihu,
Cincoyan,
Laichcu, or Linchcu.
Taven,
Lugan,
Tatong,
Scianſi,
Pingans,
Suchio.
Siganfu,
Jengan,
Pingleang,
Pichin,
Linyao.
Honan,
Temechio,
Caifung,
Nanyang,
Chinchio.
Nanking,
Chicheu,
Lucheu,
Funiam,
Xanuchi.
Quinſay, now Hancheu,
Haugcheu,
Liampo,
Aucheo,
Succu,
Chequiz.
Mochoſa, or Cheuxan,
Sunkiam, or Changque,
Suan,
Olepio,
Avareſlo,
Chapoſi.
Chinchco,
Focheu,
Yenping,
Chining,
Hinghoa,
Iſles of Lanquin, Baboxin.
Canton,
Nanhium,
Lampaca,
Quanycheu,
Uchuen,
Zanquin,
Luicheu.
Aynan Kinchenfu, Bancao,
Thinoſa,
Amacao,
Omandari,
Pulotio.
Quancy,
Colin,
Nangan.
Junnan,
Hilan.
Nanchang,
Kienchan,
Linkiang,
Juencheu,
Nangam.
Cingiang,
Huchang,
Vuchang,
Yocheu,
Cangte.
Paoning,
Xunking.
Quincheo,
Rueyang,
Hiauchoau,
Liping,
Cipan,
Pauhuu.
Hianking,
Kingzan,
Civenlo.
Gillira,
Wankan,
Tayoan.


TANCHVT
PART OF
North
TIBET
Desart of Lop
Sandy Desert of Kamo
Lake of Cangitu
SCIANSI
PEQUIN
SCIENSI
HONAN
SUCHUEN
HUQUANG
QUICHEU
QUEIQUAN
CHIANSI
FUQUIEN
QUANCII
CANTON
Canton
Nanking
Nanchang
Hangcheu
Pekin
Nanyang
Chungking
Hainan Isle
TUNQUIN
CAMBOIA
Aruacam
Pegu
PEGU
IN
Couchinchina
SIAM
DIA
Siam
C. de los Pyos
C. de Liam
Tonchin
Champa
Langor
Sambelan
Bara
TSIOMBA
R. Ognog
Lanacen
Lanchang fl.
Mecon fl.
Cochen
Vchuen
Liucheu
Quangsi
Quangsi
Chiuya
Xuucheu
Lingfus
Cochin
Chanchin
Tenghe
Cancer
Tropick of
I Formosa
I Pratu
Philippinæ
Isles
Loco
NIA
Panaj
Paragoa
INDIAN
OCEAN
THE
The Isles of IAPON or Niphon
YEDSO
OCHIO
Matuyema
Xicoco or Tokoesi
Saycock
Tanegasima
Firando
Amacusa
Meaco
Langasaqui
Bungo
Voxu
Satzuma
Ximo
Iqui
Tsussima
Quelpart I
Cheuson I
Changque I
Das Hermanos
Mal Abrigo
I. de Fuoco
I. Queso Peyuin
Lamyedon
Das Reyes Magos
CHINAN or
East
West
South
To the Right Honorable
Thomas Robinson of Sawley Knight
Lord Mayor of the Honorable Citty of
London &c. This Mappe is humbly D. & Sig. RB
A New Mapp of ye Empire of
CHINA
With its severall Provinces or kingdomes
Together w.th the adjacent Isles of Iapon or Niphon
Formosa Hainan etc.
W. Hollar fecit 1669

CHINA.

CHINA is on the East of *Asia*, and of all our Continent; and if we consider its greatness, fruitfulness, riches, the great number and politeness of its Inhabitants, the beauty of its Cities, its Manufactures, and for having had the inventions of *Silk*, *Printing*, *Paper*, *Artillery*, &c. it is worthy of note. The Kingdom of *China*.

Ptolomy knew this Country under the name of *Sinarum Regio*; but it hath been observable by us, that the *Chinois* knew not any thing of that name; and that when this great Empire falls from one Family to another, he that begins the Family gives such a new name as he pleases to the Kingdom: and these names are very specious; as formerly it had the name of *Than*, that is, *Boundless*; *Tu*, that is, *Repose*; *Hin*, which signifies, *Great*; *Sciam*, which is an *Ornament*; *Cheu*, that is, *Perfect*, and so others: The Family that reigns at present gave it the name of *Miu*, that is, *Brightness*; and the last Kings of the same Family have added *Ta*, which is, *Kingdom*, so that *Ta-Min* signifies the *Kingdom of Brightness*. The People neighbouring upon *China* take little heed of the changing of these names; but on the contrary, some name it in one manner, and some in another: Those of *Cochin-china* and *Siam* call it *Cin*, from whence we have formed the name of *China*; those of *Japhan*, *Than*: the *Tartars*, *Han*: the *Saracens* and *Mahometans* of the West call it *Cathay*; under which name is likewise comprehended the Eastern part of *Tartary*. Its several Names.

Its greatness extends from the 18*th* or 19*th*, unto the 43*th* or 44*th* degree of *Latitude*: and from 147 to 166 degrees of *Longitude*, and in some places from 145 to 172; that is about 24 degrees of *Latitude*, which amount to 600 Leagues from North to South; and 18 or 20, and sometimes 25 degrees of *Longitude*, which amount to 4, 5, or 600 Leagues from West to East: some Authors have esteemed this Kingdom greater; but the Father *Jesuites* have observed the height of *Pequin*, and its most Northern parts. Its extent.

It contains 16 Provinces, all rich, plentiful, and which might well merit the name and title of Kingdoms; they are subdivided into 28 Regions, 95 Provinces, of which some have 12, some 15 fair Cities; amongst which are 180 great Cities, 319 great Towns, and 1212 lesser; in all 1771 Cities and fair Towns. The number of its Provinces, Parts, Cities, and Towns.

However it be a great number, there is the same likewise of lesser places; insomuch that in *Anno* 1557 there was found in *China* more than 40 Millions of Men which paid Tribute or Tax; In 1616 there was near 60 Millions. Among which the *Women*, *Young men* under 20 years, *Eunuchs*, *Souldiers*, *Officers*, *Sick people*, and those of the Kings kindred were not comprehended, which together would amount to a very great number. *China* very populous.

There are accounted likewise Tributaries to the King of *China*, 3 Kings towards the East, 52 towards the West, 55 towards the South, and 3 towards the North, which are 114; and many have assured his Revenue to be 150 Millions of Gold *per annum*. Divers Kings subject to the King of *China*.

The bounds of this great Monarchy are very advantagious, the Sea washing it on the South and East, where there are divers little *Illands* and *Rocks* along the Coasts; a Mountain of above 500 Leagues long being its Northern bounds, and great sandy Desarts and Forests, mixt with Mountains, limit it on the West unto the South Sea: these were its natural defence; but upon the *Tartars* often invading *China* bounded.

invading them, and being at once Master of 33 important Towns, and fearing lest they should be quite subdued, concluded a Peace with the *Tartars*, agreeing to pay them 2000 *Picos* of Silver for the defraying the charges of their Army, and they to return home and render up the 33 Towns to the *Chinoisses*. This Peace continued a good while; but they fearing the incursion of the *Tartars* again, the King at a general Council with his Peers, for their further peace and safety did agree to build a Wall about their Kingdom, or rather Empire, which might serve for a Bulwark against all Invaders, in pursuance whereof there was raised 10000 *Picos* of Silver, which at 1500 *Ducats*, each *Pico* amounts to 15 Millions of *Gold*; and entertained 25000 Men to carry on this work, whereof 3000 were appointed as Overseers of the rest; and thus in the space of 27 years, they quite finished the circumference of the Wall, which is 70 *Jaos*, in length each *Jao* being 3 Leagues, which is 650 miles. This Wall is 30 foot high and 10 foot broad, being made with Lime, Sand, and Plaistered on the outside, by means whereof it is so hard, that it is Cannon proof; instead of *Bulwarks* it hath *Watch-Towers* 2 Stages high, flancked with high Buttresses as thick as a Hogshead, and exceeding strong; the expences for the performing of this Work was divided into 3 parts, of which the Commonalty paid one, the Priests and Isles of *Aynan* another, and the King and Peers the other: and in this great enclosure there are but 5 Entries, in which both the King of *China* and *Tartary* keep Garrisons; in each of which the *Chinois* continually keep at great expences about 6000 Horse, and 1000 Foot, which for the most part are all Strangers of different Nations bordering upon this Empire, which are kept for defence thereof, when occasion shall serve; in all this length of Wall there is 320 Companies, each of them containing 500 Souldiers, which in all are 160000, besides Officers, &c. which will make up the number 200000, and are all maintained at the Kings charge; but most of these are Malefactors, which doth much lessen the pay, they working for nothing. But for all this strong Wall, and their great care in keeping it, the *Tartars* of late have almost over-run all *China*. Besides its extent, the great number of its people, and the Forces of this Kingdom, the Soil is generally exceeding rich and fertil, and abounding in all things; and so divided by Rivers and Navigable Channels, that some have affirmed that there are as many River-boats in *China*, as in all the World besides.

A Wall about *China*.

They have all sorts of Grains and Fruits, except the *Olive* and the *Almond*, instead of which they have many others not found elsewhere; and moreover their Grains, Fruits, as also their Plants and Herbs, are far beyond ours in excellency and goodness, and their Flowers more beautiful and various than ours. This Country produceth all sorts of living Creatures, as Beasts and Fowl, both tame and wild; and so excellent, that the flesh of their *Camels*, *Mules*, *Asses*, *Dogs*, &c. are sweet, and good to eat; all Provision is here found so plentiful, that a fat *Cow* is not worth above 10 Shillings, a *Buffler* a Crown, a *Hog* 2 Shillings; all sorts of Fowl they sell by the pound, the common rate after their Feathers are off, being not above 2 Pence; and Fish they have in such great plenty, as well in their Rivers as in the Sea, that they are not worth the telling. The like may be said of their Grains and Fruits, which are found in as great abundance: they have also as great plenty in divers rich Commodities, as in excellent *Sugar*, *Wax*, *Hony*, all sorts of *Spices*, several *Drugs*, *Rice*, *Wool*, *Wines*; great quantities of *Silk* and *Cotton*, of which they make a great number of different Manufactures. They have all sorts of Metals, but their *Gold* and *Silver* is of a lower alloy than ours; and therefore it is that they so much esteem *English Gold*, and *Pistols*, and *Rials* of *Spain*: they have much *Rhubarb* and *Amber*, quantity of *Musk Civet*, which would be the best in the World, if they did not falsifie it: their *Camphire* is not near so good as that of *Borneo*, and their *Pearls* are all *Barroques*. They have much *Saltpeter*, with which they make (besides *Gunpowder*) a thousand devices and artificial Fires. They have so great plenty of *Salt*, that the Custom only in the Town of *Canter*, (as Mr. *Lewis Roberts* reports) doth bring in to the King 180 thousand *Ducats* yearly.

Its Fertility and Fruits.

Its Commodities.

They

They have abundance of very fine Inventions, of which some are common with us, but which they had before us; as the disposition of their *Posts*, their *Paper* which they make of the bark of *Bambus* or *Canes*, but so thin, that it will bear *Ink* on both sides. In their writing they make use of *Pencils*, and not *Pens*, which by reason of the smoothing of the *Paper*, they cut their *Characters* exceeding neat, their writing consisteth only of *Characters*, which make so many *Syllables*, and the *Syllables* so many different names, whose significations are various; of these *Monosyllables* they have neer 60 or 80000, they write from top to bottom, advancing their lines from the left hand to the right, and almost all their knowledg consists only in reading well. In their *Printing*, they are so expert, that they can take away, augment, or change as much or as little as they please in a moment. Their *Artillery* which they dismount by pieces, and their *Chariots* which they make run with a Saile, &c. Their *Manufactures* of *Silk*, which they say they have had 3 or 4000 years. They make use of *Tables* and *Seats* when they eat, and of *Beds* when they repose, which their Neighbours do not. Their *High-ways* are straight, paved, and cut sometimes out of the *Mountains*. They have *Salt* which they extract from the Sea-water and from Mines. They make and subtract their *Sugar*, *Honey* and *Wax*, from diverse things, to wit, from *Bees*, from the fruit of certain *Trees*, and from certain little *Worms* they keep in those *Trees*; and this sorts is the best, the whitest, and its *Candle* burns the clearest of all.

The *Chinoisses* very ingenious.

Their way of writing.

Those things which they have most particularly, are their *Drinks*, which they make with the leaves of certain *Shrubs*; a *Gumm*, and an excellent *Varnish*, which they get from the *Barks* of *Trees*. Also their *Porcelain*, which they make of *Earth*, in the Province of *Quiamsi*, of which they make excellent *Cups*, *Dishes*, &c. far exceeding *Glass-Metal*.

The *Chinoisses* are for the most part well shaped, of a good Stature; they have commonly broad faces, flat noses, little eyes; they never cut the hair of their heads, but on the contrary they wear little or no *Beards*, and as to their complexion they differ according to the *Climat* under which they abide, as those in the Province of *Pequin* lying in the most Northern part of *China*, are of a fair complexion like the *English*, when as those towards the South, as in the Province of *Canton*, &c. are like the *Moors* of *Barbary*; their Women are handsom, yet make use of *Paint*; they seldom are seen abroad.

Their shape & stature.

They wear their Garments very long, with long loose sleeves; those of the Northern Provinces make use of *Furs*, and those of the Southern wear *Silk*; but persons of quality are richly habited and adorned with many *Pearls* and *Precious Stones*. They are great lovers of Women, as also of their bellies, commonly eating thrice a day, their diet being good and cleanly dresst, and they as neat in eating it, making use of *Knifes* and *Forks*.

Their habit.

They are very ingenious, and much more industrious and Politick then their Neighbours, having the use and understanding of *Arts* and *Sciences*, both liberal and Mechanical, as *Philosophy*, *Physick*, *Astronomy* concerning the *Heavens* and *Stars*, the *Eclipses* of the *Sun* and *Moon*, &c. in the which they have abundance of vain fancies. Also they are expert in *Musick* and making of *Musical Instruments*, *Navigation*, *Architecture*, *Painting*, *Sculpture*, making of *Clocks*, casting of *Medals* in *Images*, *Medals* or the like; these with several other inventions too tedious to name, they had the benefit of before us; yet are they not in that perfection as they are with us. And as for *Armes*, they have their courage so low, that both the *Souldiers* and the *Commanders* submit themselves to the whip, when they have been wanting in their duty; so that it was said, that when the *Tartars* assaulted them, it sufficed them only to have shewed them the whip, to have put them to flight, as the *Scythians* their predecessors once served their slaves, who during their long absence had married their *Mistresses*. It is likewise reported that the *China Horses* could not suffer the weighing of the *Tartarian Cowlers*; and the *Chinois Cavaliers* being of the same humor, they were more likely to run than fight.

They are addicted to *Arts* and *Sciences*.

Not good *Souldiers*.

Moreover the *Chinois* are very ceremonious, courteous, and great complementers, for which they have several Printed Books which they teach their children, not passing by any one, that they know, without kind salutations; and if they happen to espy any friend which comes out of the Country, besides their kind greeting, his first question will be to ask him whether he hath dined or supped; which if he hath not, he will carry him to a *Tavern*, and give him a treatment of *Flesh*, *Fowle* and *Fish*; and if he hath din'd, a collation of *Fruits* and *Conserves*.

They are also very costly in their *Feasts* and *Entertainments*, as in variety of *Meats*, *Fruits*, *Preserves*, to which may be added other delights; as *Musick*, *Singing*, *Dancing*, *Plaies*, and other pastimes. And for persons of quality they observe more state, some *Feasts* lasting about 15 or 20 days.

They have several days which they make great account of in *Feastings* and merriments, but above all others, their *New years day*, which is in *March*, where also their *Priests* are present at their rejoycings, adding to the solemnity of the day Sacrifices which they make to their Gods.

In their *Marriages* they are also very expensive in their *Feasts*; for the *Bridegroom* receives no other Portion from her friends, then what they bestow in their entertainments; but on the contrary, he gives her a Portion, which she gives to her friends in thankfulness for their care in her education.

Their Religion and belief

The *Chinois* may be held as *Pagans* and *Idolaters*, not knowing the true *Religion*, but worshipping *Idolls*; they invoke the *Devil*, they hold the immortality of the *Soul*, and after this life it goeth to eternal bliss, or torment; they also hold a kind of *Purgatory*, and that their friends and relations upon their prayers and supplications, may have some ease, for which purpose they have a day set apart for the performing of this ceremony. They have four orders of *Religious* men; they observe all one fashion, but are distinguished by their colour; they all shave their beards and heads, they make use of *Beads*, and say their *Matins*, &c. as the *European Monks* do. *Mandelsloe* saith that they are much addicted to incantations and charmes, not doing any thing of concernment, without they have first consulted it by their charmes; and if they prove not according to their desire, they will raile and abuse their *Gods* with scurrilous language, fling them down, beat them, whip them, and tread upon them; but when their choler is asswaged, they will cogg with them, give them good words, and pretend sorrow; and if the charme favour them, then they offer to them *Geese*, *Ducks*, boiled *Rice*, &c. These charms are commonly two small pieces of wood, one side being flat, and the other being hallow, which they fling upon the ground; and if it happen that the round side of both, or of one is downwards, they take it for an ill omen; if uppermost, for good. They believe that all things visible and invisible were created by Heaven, who by a *Vicegerent* governs the Universe, another who governs all *Sublunary* things; they also add three principal *Ministers*; one looks to the production of *Fruits*, and the generation of *Men* and *Animals*, another governs the *Air*, and causeth *Rain*, &c. and the other governeth the *Waters* and *Sea*.

Their funeral Ceremonies.

Mandelsloe saith also, that at their *Funerals* they have several ceremonies; as soon as any person is deceased, they wash his body, put on his best Clothes, and set him in a Chair, where his Wife, Children, and other Relations kneeling down about him, take their leave of him, which done, they put him into the Coffin, set it upon a Table, covering him with a Winding-sheet, which reaches to the ground, on which they draw the Picture of the deceased, where they leave him 15 days, during which time in some other Room they set on a Table *Wine*, *Fruit* and *Lights*, for the *Priest* who watcheth; after which time, they carry the Corps to the Burial place, his Relations commonly mourning for a year.

The King governs by his own Will.

The Government of the Kingdom or Empire of *China*, is wholly at the power of the King, either to change, take away, or augment Laws, when and as oft as he pleases; yet doth he not execute any rigorous Laws upon them, scarce acting or imposing any thing upon his Subjects, without the Advice of his Council of State; besides this Council of State, he appoints others, as well for the

the Administration of Justice, as for the oversight of other affaires in the Kingdom; but they neither inflict any punishment to Criminals, or determine any thing of themselves, but make their report to the King, who decides the same.

They are very circumspect how they condemn any person, not passing their sentence, till the offence is found so clear and evident, that the offendor is not able to justifie himself, they use fair means first for the finding out of the truth; and if that will not do, they then inflict several tortures upon them; their executions are various and more cruel according to the offence committed; some being hanged, some they impale, some they burn; their greatest punishment is inflicted on thieves, which they much abhor. Debtors they imprison; for which purpose there being so many, there is in every great City several Prisons, in which they are strictly kept and lookt unto; by reason of which that their lives may not be burthensome unto them, they have in their Prisons, *Gardens*, *Courts*, *Walks*, *Fish-ponds*, *Drinking-houses* and *Shops*, which furnish the Prisoners with such things as they have occasion for.

Kings of *China* hereditary.

The Dignity of the Crown of *China* is hereditary, falling to the eldest Son of the King after his decease; the King they highly reverence, calling him the Son of Heaven, the Son of God, or the like, not that they think him so, but being the chiefest of men, they esteem him dear to the Gods, and as a gift of Heaven.

The *Chinois* have many Books and descriptions of their Kingdom: observing exactly all that their Provinces particularly possess: what is the extent, quality, and force of each, how many Cities they have, how many Officers, how many men which study, how many which bear Armes, who pay Tribute, and a Thousand particularities; of which however writers have recounted to us but few things, scarce can we gather the Names of the sixteen *Provinces*, and of some Cities and Rivers; these Names being so diverse in several Authors, that it is a difficulty to reconcile them; we will say something of them giving them those names which seem to us best received.

The division of *China* into Provinces.

CHINA is divided into two principal parts, Northern, and Southern: there are six *Provinces* in the Northern part, and ten in the Southern: The River *Jamchucquian* traverses these; and the River *Caramoran* those. Of the six Northern parts, three are washed by the Sea, as *Leaoton*, *Pequin* and *Scianton*, and of these three, the two first touch the great Wall or Mountain; the three other *Provinces* are on the firm Land; as *Sciansi*, *Scensi*, and *Honan*, likewise of these three, the two first touch the great Wall; amongst the ten Southern ones, there are six on the Sea; three towards the East, as *Nanquin*, *Checquian*, or *Aucheo* and *Fuquien*; and three towards the South, as *Canton*, *Quancy*, and *Yunnan*; the other four *Provinces* are up in the Land, and are called *Chiamsi*, *Huquan*, *Suchuen*, and *Quicheu*. And of these *Provinces* in order.

Province of *Leaoton* described.

The Province of *LEAOTON* is almost quite separated from the rest of *China*: Its chief City bears the same name; this City, as also most of the Cities in *China*, is well built, and of one form, being square, and with good Walls made of *Brick*, and plaistered over with *Porcelain*, which renders it exceeding hard and strong; they are commonly broad, and having the benefit of several *Towers*, as well for beauty as defence. Its Soil amongst other things produces the Root *Ginsen*, which preserves the well in health and strength; strengthens and restores health to the sick; they sell it commonly at double its weight of *Silver*. Its *Inhabitants* are less civilised then the rest of *China*, but more robustious and proper for Warr. Its other places of most note are *Richeo*, and *Chincheo*, and both seated on the Sea.

Province of *Pequin*, and its chief places.

The Province of *PEQUIN*, though of great fertility, yet by reason of its popu- usness, occasioned by the residence of the Kings of *China* in its principal City *Jo Xunthienfu* by us called *Pequin*, makes it that it cannot furnish *Mayz*, *Wheat*, *Rice*, and other *Provisions* enough for its *Inhabitants* and resort of People; which defect is supplied from the adjacent *Provinces*. The City of

Xunthienfu or *Pequin* is of a vaſt bigneſs, containing within its *Walls* (made of *Free-ſtone*, and ſtrongly fortified with *Bulwarks*) which are in circumference near 30 *Leagues*, about 3300 *Pagodes* or *Temples*, wherein are continually ſacrificed a great number of *Wild-Beaſts* and *Birds*: Theſe *Pagodes*, eſpecially thoſe of the Order of the *Menegrepos*, *Conquiays* and *Talagrepos*, who are the *Prieſts* of the 4 Sects of *Xaca*, *Amida*, *Gizan* and *Canon*, are ſumptuous Structures. To the *Wall* which encompaſſeth this City, for the conveniency of its *Inhabitants* are 360 Gates, to each of which is joyned a ſmall Fort where a Guard is continually kept, as alſo a Regiſter, to take the names of all Perſons that paſs thereat. The *Streets* are long, broad, and well compoſed, and its houſes fair and lofty; each of the chief *Streets* having its *Captain* and other *Officers*, who are to look after the ſame, which every night are ſhut up by Gates. Here are about 120 *Aquæducts* or *Canals*, which traverſe the City, upon which are near 1800 fair Bridges ſuſtained on Arches. Without the City in a tract of 7 Leagues long and 3 broad, are about 80000 *Tombs* of the *Mandarins*, which are ſmall *Chapels*, richly beautified, nigh unto which are about 500 great *Palaces*, which they call the *Houſes* of the *Sun*, which are inhabited by thoſe that can no longer bear *Armes* for the *Emperour* of *China*; either through age, ſickneſs or other infirmities. Alſo here are about 1300 ſtately *Houſes* inhabited by *Religious Men* and *Women*. There are ſeveral *Streets* of a great length, only poſſeſſed by People of one profeſſion, as one by near 14000 *Taverns*; another by innumerable many *Courtizans*, and another by about 24000 *Oarmen*, which belong to the *Emperours Panourers*. Here are alſo 32 great *Colledges* for thoſe that ſtudy the *Laws*. Likewiſe there are abundance of large *Houſes*, with ſpacious incloſures of *Gardens*, *Woods*, provided of *Game*, near this City, which ſaid *Houſes* or rather *Inns*, ſerve only to give entertainment to people of all degrees, by ſeeing of *Plaies*, *Combates*, *Bulbaitings*, &c. and the *Palace Royal* of the *Emperour*, which is in this City for its largeneſs, fairneſs and richneſs, is not inferior to any in the *Eaſt*; this City being his reſidence for the Northern Provinces, as *Nanquin* is for the Southern.

And thus much for the City of *Pequin*; its other chief places are, firſt, *Tianchevoy*; ſecondly, *Hinpin*; and thirdly, *Cichio*, ſeated on a fair River about 70 Miles from the *Sea*.

The Province of *Sciaton*, its fertility, &c.

The Province of *SCIANTON*, is between that of *Pequin* and *Nanquin*; it is well watered with Rivers, which makes it very fertile, abounding in ſo great plenty of al ſorts of *Fleſh*, *Fowl*, *Fiſh*, *Grains*, *Fruits*, &c. that its *Inhabitants*, which are eſteemed about ſeven Millions of Perſons, cannot devour the encreaſe but are forced to furniſh other Provinces; they have alſo great ſtore of *Silk*, and other rich *Commodities*. It hath ſeveral great Cities, the chief of which are, 1 *Xanton*, not far from the *Sea*; 2 *Pamnihu*, 3 *Cincoyan*, and 4 *Linceu*, ſeated in an Iſle ſo called: Beſides which, here are found in this *Sea*, 9 other Iſles, moſt of which do belong to this Province, and are well known, affording many of the *China Commodities*.

The Province of *Scianſi*, its fertility and chief places.

The Province of *SCIANSI*, which *Purchas* calls *Canſas*, hath many *Mountains*, by reaſon of which it is not ſo fertile, as that of *Pequin*; neither is it ſo large, ſo populous, nor ſo pleaſant; yet with the induſtry of the *Inhabitants*, it produceth *Corn*, *Rice* and *Mayz*; but in recompence it breeds great quantity of *Cattle*, and hath ſo many *Vines*, that it furniſhes the whole Kingdom with *Pickled Grapes* and *Raiſins*. It hath likewiſe two ſorts of *Mines*, the one of *Brimſtone*, the other of *Stones* which burn, and may be called *Coals*. In the *Sulphur Mines* they make little holes, to draw out heat enough to boyl any thing they need. The *Mines* of *Coals* are inexhauſtible, encreaſing from time to time: and theſe *Coals* well prepared, will keep fire day and night without being touched.

In this Province are about 90 Cities and great Towns, ſix of which are of conſiderable note; as, 1 *Sciansi*, 2 *Taven*, 3 *Lugan*, 4 *Talong*, 5 *Pingans*, 6 *Suchio*; all which are well built and very populous.

The

The Province of *Sciensi* deſcribed.

The Province of *SCIENSI* or *XEMSI*, which *Purchas* calls *Soyohin*, *Mendoza*, *Sinſay*, is the moſt Weſtward of all the Six Northern Provinces, and the greateſt of all the 16 Provinces; *Siganfu* is eſteemed its chief City; the great *Mountain* and *Wall* doth bound it from the *Tartars*; the *Soyl* is dry, yet yields good ſtore of *Wheat*, *Mayz* and *Barley*, but little *Rice*; it feeds much *Cattle*, and the *Sheep* are ſheared thrice a year, in *Spring*, *Summer* and *Autumn*; their firſt ſhearing is the beſt: It yields *Musk*, which is the *Navel* of a *Beaſt*, of the bigneſs of a *Hinde*. They have *Gold*, which they gather amongſt the *Sand of the Rivers*; for the *Mines*, though it hath ſome, yet they are not open. It produceth divers *Perfumes* and *Rhubarb*, which they carry into *Perſia*, and other places: And it is through this Province, that the *Caravans* come from the *West*.

This Province is very populous, and is well ſtored with great Towns and Cities, having 8 great Cities, as, 1 *Siganfu*, its *Metropolis*, afore ſpoken of, 2 *Jengun*, 3 *Pingleang*, 4 *Pichin*, 5 *Lynyao*; with a great many of leſs note.

The Province of *Honan*, and its chief places.

The Province of *HONAN*, which *Purchas* calls *Oyman*, is very fertile, and the Climate very temperate; the freeſt from *Mountains*, and the ſartheſt from the *Sea*. It produceth the beſt *Fruits* in the World, as well thoſe known to us in *Europe*, as others; and that in ſo great quantity, that they are ſcarce valued. The *River* of *Caramoran* after having divided the Provinces of *Sciansi*, and *Sciensi* takes its courſe through the middle of *Honan*, and diſcharges it ſelf into the *Sea*, by the Province of *Nanquin*. It comprehendeth 7 great Cities, the chief of which bears the name of the Province; its other chief places are, 1 *Temichio*, 2 *Caifung*, 3 *Nanyang*, and 4 *Chinchio*, beſides about One hundred leſs ones, all well inhabited. Hitherto we have ſurveyed the ſix Northern Provinces of *China*; we come now to the 10 more to the *South*.

The Province of *Nanquin* its Cities.

The Province of *NANQUIN* is the faireſt and richeſt, and its *Inhabitants* the moſt civiliſed of all the Kingdom; and the Kings of *China* did alwaies make their reſidence at *Nanquin*, till of late they have made it at *Pequin*. It comprehends 14 great and fair Cities, *viz.* 1 *Umthienfu* or *Nanquin*, which is the *Metropolis* of the Province, 2 *Chicheu*, 3 *Lucheu*, 4 *Funiam*, and 5 *Zanuchi*, all which are very populous; ſome of which have about 200000 people, which only work in making of *Calicoes*: All which are commodiouſly ſeated on arms of the *Sea*, which make ſeveral Iſles. And beſide theſe Cities, there are about 100 ſmall ones of leſs note: I ſhall only ſpeak ſomething of *Nanquin*.

The City of *Nanquin* deſcribed.

Umthienfu or *Nanquin*, as we call it, yet ceaſes not to be the greateſt, faireſt and richeſt City of the whole Kingdom, next to *Pequin*. The form and Symmetry of its *Buildings* in its *Palace*, in its *Temples*, in its *Gates*, in its *Towers*, and in its *Bridges*, as likewiſe in its publick and particular *Houſes*, and their Ornaments, are wonderful. It is ſituate upon the *River* of *Batampina*, and upon an indifferent high Hill; ſo that it commands all the Plains there adjacent. The circumference is 8 Leagues, ½ long, and 1 broad, all encompaſſed with a ſtrong *Wall* of hewed *Stone*; about which there are 130 *Gates*, at each of which there is kept a *Porter* with two *Halberdiers*, whoſe Office is to take the names of every one that paſſes every day in and out; and beſides the ſtrong *Wall*, there are for further defence 12 *Forts* or *Cittadels*. In this City there are accounted above 800000 *Houſes*, beſides 80000 *Mandarins Houſes*, 60 great *Market places*, 130 *Butchers Shambles*, each containing about 80 *Shops*, 8000 *Streets*, whereof 600 are fairer and larger then the reſt; all which are broad, ſtraight and well diſpoſed, and are compaſſed about with *Balliſters* of *Copper*: The *Houſes* are about two ſtories high, and built of *Wood*, except thoſe of the *Mandarins*, which are compoſed of *Hewed Stone*, and encompaſſed with *Walls* and *Ditches*, over which they have *Stone Bridges*, with rich *Gates* and *Arches*. The *Houſes* or rather *Palaces* of the *Chaems*, *Auchacys*, *Aytans*, *Tutons*, and *Chumbims*, which are Governors of the Kingdoms or Provinces of the Empire of *China*, under the Emperor, are ſtately Structures of about 6 or 7 ſtories high, and richly adorned with *Gold*, in which are kept their *Magazins* for *Arms*, *Ammunition*; as alſo their *Treaſuries*, their *Wardrops*, and their *Fine*

Por-

Porcelain, which by them is so highly esteemed. Here are about 2300 *Pagodes*, a thousand of which were *Monasteries* for Religious Persons, which are exceeding rich. Here are also about thirty great *Prisons* which will contain about two or three thousand Prisoners a-piece: Also a great *Hospital* for the relief of the Poor. At the entrance of every principal Street, for the security of the *Inhabitants*, there are *Arches* and *Gates* which are kept shut every night; and in most of the chief Streets are pleasant *Fountains*.

In this City there is accounted about ten thousand Trades for the working of *Silks*, which from thence are sent all over the Kingdom; which at every *New* and *Full Moon*, amongst divers other *Commodities*, are vended at *Fairs* in several places of the City. Its Traffick and Commerce bring thither so great a multitude of People, that its Streets are scarce able to be passed for the throng. Its *Commodities* and *Manufactures* are in so great esteem, that they utter better then others; and all the neighbouring Countries make a great number of *Manufactures*.

The Revenue which the King receives from this *Province* is exceeding vast, the *Inhabitants* paying into his *Exchequer* Sixty Millions of *Crowns* yearly; besides great *Excises* upon all *Commodities*, if *Mandelslo* may be believed; and if he receiveth so much out of one *Province*, judge what a vast Revenue he hath from all the *Provinces*, many of which are no ways interior to this.

The Province of *Chequian*. The Province of *CHEQUIAN* which *Purchas* calls *Essiram* passes likewise for one of the best *Provinces* of *China*. The pleasant Rivers which run through it, and the many good *Ports*, with its Isles it hath on the Coast, doth facilitate the utterance of its *Merchandizes*; and particularly, both *Raw Silk*, and prepared in *Thred*, and in *Stuffs*, which it distributes to the other *Provinces* of *China*, and throughout all the World; the other *Provinces* of *China*, not having enough for their use. Of this *Silk* there is one sort which is reserved to be employed in divers works mixed with *Gold*, with great art and curiosity, and those are only for the Kings *Palace*. This *Province* hath about seventy Cities, of which six are of considerable note, as

Its chief places. 1 *Quinsay*, now called *Hamceu*, once the *Metropolis* of *China*; 2. *Liampo*, a fair City seated on the Sea; 3 *Aucheo* also commodiously seated on the Sea; 4 *Scanutanu* an In-land City, 5 *Chequian* also an In-land City, but fair, well built, and frequented; and 6 *Succu*, seated on the Sea, and about 25 Leagues from the City of *Nanquin*.

All which are fair, strong, well built, and very populous Cities, but not comparable to *Quinsay*, of which a word or two.

The City of *Quinsay* described. *Quinsay* or *Hamceu*, as I said before, was once the *Metropolis* of *China*, being (if we may give credit to *Authors*,) 100 miles in circuit, and having in the midst thereof, a *Lake* of about 30 miles in compass, in which are two fair Islands, and in them two stately *Palaces* adorned with all necessaries, either for Majesty or Conveniency; the City having variety of stately *Palaces*. Its *Houses* as well private as publick, are fair and well built, having abundance of *Pagodes*, the Streets large, well ordered and paved with *Free-stone*. To this City are said to belong about 10000 Sail of great and small Vessels, which are inhabited by People, who there negotiate their affairs, and remove from one place and City to another, as their occasions serve them. There are said to be in this City about 15000 *Priests*, and besides the vast number of *Inhabitants*, there are about 60000 persons which are employed in working of *Silk*. But this City, since *Pequin* and *Fanquin* are become the Residence of the King and Court, hath much lost its former splendor.

This *Province* is observed to have a great number of *Temples* magnificently built, and the *Lake Sihu* bordered with stately *Palaces*, and encompassed with *Hills* covered with *Trees* and rare *Plants*. A place so pleasant and delightful, that the greatest and richest of the *Province* pass here their time, and expend their goods.

There are also in this *Province* whole *Forests* of *Mulberry-trees*, by reason of which they have the greatest product of *Silk*, of any *Province* in *China*; which they furnish several Kindoms with, as well in *Europe*, as in *Asia*.

Along

Along the Coast of this Province are seated several Isles, some of which are very considerable, as *Mochoja* and *Sunksam*, which is about 25 Leagues broad, and as many long; nigh to the shore of which lie several others, but of a lesser bigness. Its other Isles, are 1. *Suan.* 2 *Olepio*, 3 *Avarella*, and 4 the Isles of *Chapoi*, which are a body of several small Isles.

The Province of *FUQUIEN* is not so fertile as *Chequin* and *Canton*, between which it is situated. Its *Inhabitants* endeavour to repair that default by their Trade with Strangers, and principally with *Japan*, the *Philippines*, *Fermosa* or *Fair Island*, which is directly opposite to their Coast. The *Earth* produceth *Gold*, *Iron*, *Steel*, *Sugar*, *Calamba*, *Spices*, *Drugs*, *Quicksilver*, *Precious Stones*, *Fruits*, *Grains* and *Cattle*; also *Silk* and *Cotton*, of which they make divers *Manufactures*, as also they make all sorts of *Paper*. The Province of *Fuquin*. Its Commodities and chief places.

There are in this Province several Cities of note, but its chief are 1 *Focheu*, seated on a fair *River* not above 17 Leagues from the *Sea*; 2 *Chincheo*, also commodiously seated on a fair *River* or *Arm* of the *Rea*, from which it is distant about 10 Leagues, 3 *Tenping*, 4 *Chuning*, and 5 *Hinghoa*.

The *Inhabitants* of *Fermosa* are almost all *Savages*, the *Spaniards* have built one *Fortress* on the East side, and the *Hollanders* another on the West side and towards the Continent, which they call *Zealand*. The *Air* is temperate, and healthful, which makes the Province become very populous; and along the Coast are seated several Isles, as *Lanquin*, *Baboxin*, &c.

The Province of *CANTON* or *QUANTUNG*, though one of the least Provinces of *China* in extent, yet by the reason of the goodness of its *Soyl*, and the conveniency of its situation, being the first that presents its self to those of *Europe*, *Africa* and *Asia*, which come to *China*, it abounds in *Wheat*, *Rice*, and other *Grains*, *Sugar*, *Gold*, *Precious Stones*, *Pearls*, *Steel*, *Quick-silver*, *Silk*, *Salt-Peter*, *Calamback-wood* and *Copper*, *Iron* and *Tin*, of which they make curious Vessels, which they varnish with *Charam*, and which are brought to *Europe*. They make also the Barrels of their *Guns* in that nature, that though they are never so much laden, yet they do not break. The Province of *Canton*. Its fertility, commodities, &c.

The *Inhabitants* are very civil, industrious and ingenious, but they are better in imitation then invention; being in the first so great masters, that there is no rarity or manufacture whatsoever that comes to their sight, but they will exactly pattern as well as the *Europeans*; and in all manner of *Goldsmiths* work they far exceed them. Its Inhabitants.

In this Province are observed to be three things which are not in the other Provinces, that is, Men which spit *Blood* continually; *Mountains* without *Snow*; and *Trees* always green. Three things noted in this Province.

In this Province are about 80 Cities both small and great, the chief whereof are 1 *Quangcheu* or *Canton*, under which I shall include the Trade of *China*, as being the chiefest place of *Traffick*. It is well built, of great *Traffick*, rich, and very populous; to which the *Portugals* have a great Trade, being commodiously seated on an *Arm* of the *Sea*. Its chief places

2. The Island and City of *AMACAO* is seated opposite to the City of *Canton*, on the North side of a *Bay*, which is at the mouth of the great *River* of *Canton*, which issueth out of the Lake of *Quancy*. This place is inhabited by the *Portugals*, intermixed with the natural *Chinois*; their particular Trade is with the City of *Canton*, which may be counted the Staple of all the *China Commodities*, whether they are permitted to come twice a year; at which time there are *Fairs* kept for the vending of their *Commodities*, which they carry to *Malacca*, *Goa*, and so into several parts of *Europe*. But though they are admitted the liberty of Trade, yet are they denied the freedom of lying in the City at nights; neither to enter the Walls without setting down their names in Books, which are kept by persons at each Gate for the same purpose, which when they depart at night, they cross out. The Isle and City of *Amacao* and its Trade.

Its other chief places are 1 *Xauquin*, a *Maritime* City, 2 *Laicheu*, also seated on the *Sea*, very commodious for *Traffick*, and opposite to the Isle of *Aynan*, from which it is distant about 5 Leagues, 3 *Lampaca*, also seated upon the *Sea*, and 4 *Nanhium* seated far within Land, and among the *Mountains* which parts this Province from *Chiamsi*.

The

The Isle of *Aynan*, & its commodities.

The Isle of *AYNAN* is also comprehended under this Province, and is the greatest of all the Islands that belong to *China*. It is distant from *Amacao*, on the South 50 or 60 Leagues; it is almost as long as broad, having 50 Leagues from South to North, where it almost joyns upon the Southern Coast of *China*, and on the other side regards *Cochinchina*. It abounds in *Grains*, *Fruits*, *Tame* and *Wild Beasts*: The *Sea* hath *Pearls*, *Lignum Aquilæ* and *Calamba*. Their *Craw-fish* taken out of the *Water* die, and grow hard like a *Stone*; which being reduced to *Powder*, serves for a remedy against many diseases. The *Earth* hath *Mines* of *Gold* and *Silver*, for which the *Inhabitants* care little. In the midst of the Island, the People are likewise half *Savages*: The chief City is *Kincenfeu*, seated on the *Sea-shore*, and regarding the Province of *Canton*.

The Province of *Quancy*, and its chief Cities.

The Province of *QUANCY*, which *Purchas* calls *Guansa*, enjoys the same temperament with *Canton*, yields the same *Commodities*, and with the same plenty, but is not so much frequented by *Merchants*, nor hath scarce any confluence of *Strangers*; the reason is, because its *Rivers* loose and discharge themselves all in the Province, and at the City of *Canton*, which forces them to pass through the hands of those of *Canton*, to utter their *Merchandizes*, and receive those of others. In this Province there are Ten large Cities, of which *Quancy* is chief, all well built and very populous, besides about one hundred small ones.

The Province of *Zunnan*, and its chief places

The Province of *ZUNNAN*, which *Purchas* calls *Vanam*, is the last on the South Coast, where it is washed by the Gulf of *Cochinchina*, and on the West, where it touches on the Kingdom of *Tunquin*, and on divers People beyond those *Mountains* which inclose the West of *China*. The Women have here the liverty to go in publick to buy and sell, which those of other parts of *China* do not. It hath *Mines* which yield a kind of *Amber* redder and less pure then ours; but which hath some particular vertue against *Fluxes*. Besides this, it transports few *Merchandizes* into other places. This Province hath likewise good store of small and great Cities, the chief of which bears the name of the Province, and *Hilan*, seated on a Lake so called, which is in form of a *Crescent*.

The Province of *Chiamsi*, its Trade & chief places.

The Province of *CHIAMSI*, which *Purchas* calls *Lansay*, is inclosed with *Mountains*, which have their passages open to the Neighbouring Provinces, and particularly on the Coast of *Canton*. On the *Mountain* of *Muilin* there is a great concourse for the carriages of *Merchandizes*, which are transported from *Canton* to *Nanquin*, which is done by mounting the *River* of *Canton*, unto the foot of the *Mountain*: From whence the carriages being taken out of the Vessels, are loaden, and born upon Mens backs to the other side of the *Mountain*, where there is found another navigable *River*, which crosses the Province *Kiamsi*, till it falls into the famous *Jamchuquiam*, which leads to *Nanquin*, and the *Sea*.

This Province is so peopled, that a part of its *Inhabitants* are constrained to spread themselves through all other Provinces of *China*, to seek their fortune. It is in one of the Cities of this Province that they make *Porcelain*; the Water here being fit to give it perfection: The Earth is fetched from other places, beaten and fashioned at the same time; the tincture they most commonly apply, is *Azure*, some lay on *Vermilion*, others *Yellow*. In this Province are 12 great Cities, besides about sixty small ones, its chief City being called *Nanciam*, seated on a Lake, as is *Quianhanfu*, and others. Its other chief places are, 1 *Kienchan*, 2 *Linbiang*, 3 *Juencheu*, 4 *Nangam*.

The Province of *Huquam*, and its Commodities.

The Province of *HUQUAM* is so abundant in *Rice*, that it is able to furnish a good part of *China*: It is likewise rich in *Oyls* and *Fish*. The *Jamchuquian*, and many other *Rivers* and *Lakes* cross it on all sides, and carry its *Commodities* towards *Nanquin*, and to *Quincheu*. It is very populous; containing 15 great Cities, and about 100 small ones, the chief of which are, 1 *Chingiang*, 2 *Huchang*, 3 *Suchang*, 4 *Tocheu*, &c.

The

The Province of *Suchuen* described.

The Province of *SUCHUEN*, which *Mendoza* calls *Susuan*; *Purchas*, *Soin*, is one of the lesser Provinces of the Kingdom; it is high scituated, and pours down its Rivers into the Neighbouring Provinces. Here is found good store of *yellow Amber*, and excellent *Rhubarb*. Its chief Cities are in number 8, together with about 120 lesser ones; all which are exceeding populous, the chief bearing the name of the Province.

The Province of *Quichia*, and its chief places.

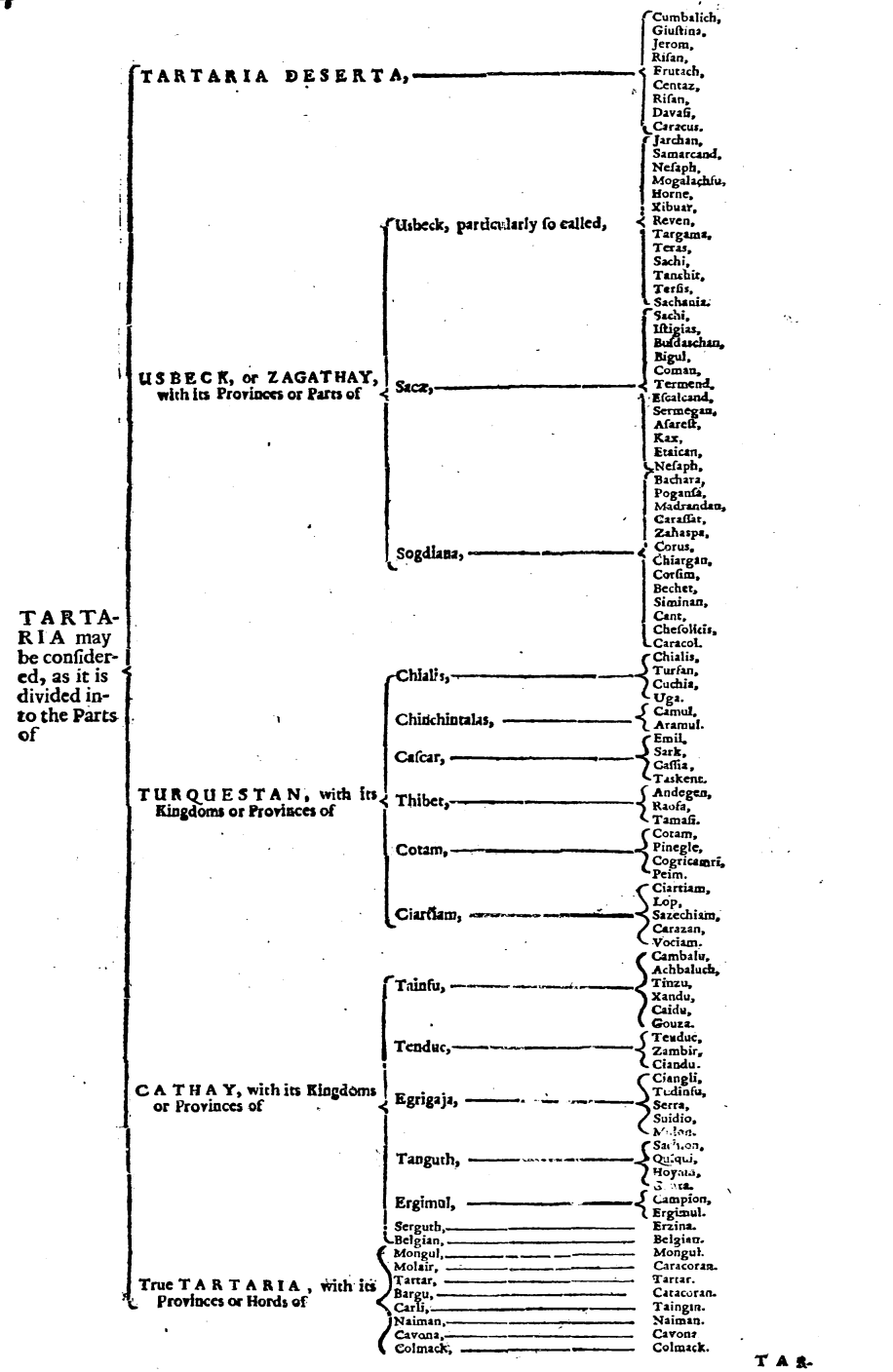
The last of the Provinces I have to treat of is *QUICHEU*, or likewise *CUTCHEU*, according to *Purchas*. It borders on the People *Timocoves*, *Gueyes*, the Kingdom of *Ciocangue*, and the People called *Layes*: Here is that famous Lake *Cincui-Hai*, from whence comes divers Rivers which water *China*. They make here quantity of Arms of all sorts, to serve against those People which border upon them which once belonged to *China*; but which now, for the most part, are Enemies to it. This Province is Hilly and uneven, which makes it not very fertil in *Corn*, *Fruits*, &c. but it hath abundance of *Quicksilver*; and also it breeds the best *Horses* of any Province in all *China*. Cities in this Province are very few, there being not above 15, both small and great; the chief of which are, 1. *Quicheo*, seated on the River *Yanchiquian*. 2. *Rueyang*. 3. *Hiauchoau*. 4. *Liping*. 5. *Cipan*, &c.

All these Provinces, or rather all these Kingdoms of *China*, are governed by divers Magistrates, which those of *Europe* call in general *Mandarins*. These are persons that have Patents, whom the King or chief Officer of State doth chuse, after knowledge of their capacity and honesty; the degrees given to *Students*, the general and particular *Governments*, the charges of the *Militia*, the receipt of, and management of *Revenues*, the building and repairing of *Publick Buildings*, the *Civil* and *Criminal Justice*, are in their hands. And there are *Appeals* from one to the other, according to the order and nature of Affairs. The *Council of Estate* always resides near the person of the King, and hath a general eye over the Kingdom.

But it shall suffice; what we have said of *China* let us finish by saying, That we have described it as it was before the *Tartars* made an irruption in 1618. These *Tartars* kept it wholly for some years, since which the *Chinois* have repulsed them, and have established their former estate, receiving likewise *Christianity* with hopes of great fruits and progress; but of late they have broke into *China* again, and have committed great Spoils.

The Isles about *China*.

Besides the Isles already spoken of, here are about the Coast of *China* several others, as the Isle of *Corey* in the Gulph of *Nanquin*, of good account, and well frequented, affording many of the *China* Commodities. It is of a large extent, being 100 Leagues in length, and about 50 in breadth. Its chief places are, *Tauxem*, seated on the Northern part of the Isle, regarding the Province of *Leaoton*; from which it is parted by a Streight or Gulph not above two Leagues broad. 2. *Corey*, seated on the Gulph of *Nanquin*, Southernly. 3. *Tasoran*, also seated on the Sea Eastwards; and on the South of this Isle are seated a Body of several Isles, called the Isles of *Larrons*. Likewise the Isles of *Fuego*, *Lequeio Grande*, *Les Roys Mages*; the Isles of *Pescheurs* or *Fishers*; of *Pakan* or *Formosa*; of *Tabaco Miguel*, and *Tabaco Ximo*.


TARTARIA may be considered, as it is divided into the Parts of
TARTARIA DESERTA,
Cumbalich, Giuſtina, Jerom, Riſan, Frutach, Centaz, Riſan, Davaſi, Caracus.
USBECK, or ZAGATHAY, with its Provinces or Parts of
Usbeck, particularly ſo called,
Jarchan, Samarcand, Neſaph, Mogalachſu, Horne, Xibuar, Reven, Targama, Teras, Sachi, Tanchit, Terſis, Sachania.
Sacæ,
Sachi, Iſtigias, Budaschan, Bigul, Coman, Termend, Eſcalcand, Sermegan, Afareſt, Kax, Etaicat, Neſaph.
Sogdiana,
Bachara, Poganſa, Madrandan, Caraſſat, Zahaspa, Corus, Chiargan, Corſim, Bechet, Siminan, Cant, Cheſolicis, Caracol.
TURQUESTAN, with its Kingdoms or Provinces of
Chialis,
Chialis, Turfan, Cuchia, Uga.
Chinchintalas,
Camul, Aramul.
Caſcar,
Emil, Sark, Caſſia, Taskent.
Thibet,
Andegen, Raoſa, Tamaſi.
Cotam,
Cotam, Pinegle, Cogricamri, Peim.
Ciarſiam,
Ciartiam, Lop, Sazechiam, Carazan, Vociam.
CATHAY, with its Kingdoms or Provinces of
Tainfu,
Cambalu, Achbaluch, Tinzu, Xandu, Caidu, Gouza.
Tenduc,
Teuduc, Zambir, Ciandu.
Egrigaja,
Ciangli, Tedinfu, Serra, Suidio, Mulon.
Tanguth,
Sachion, Quiqui, Hoyana, Soita.
Ergimul,
Campion, Ergimul.
True TARTARIA, with its Provinces or Hords of
Serguth, Erzina.
Belgian, Belgian.
Mongul, Mongul.
Molair, Caracoran.
Tartar, Tartar.
Bargu, Caracoran.
Carli, Taingin.
Naiman, Naiman.
Cavona, Cavonz
Colmack, Colmack.

TAR-


To the Right Worshipfull Sr James Shaen of Shyne in Surrey Knight and Baronet.
This Mapp is humbly D.D. by R. Blome.
THE SEPTENTRIONAL GLACICK and SCYTHICK OCEAN or the TARTARIAN SEA
A MAPP of ye Kingdome of TARTARY By Monsieur Sanson.
EMPIRE of RUSSIA
KOLMACKI
NAGAIA HORDA
KOLMACHI
TURCMEN
THE CASPIEN SEA or the SEA of GILAN
TABARESTAN &
EMPIRE of PERSIA
DESERT
TARIA
CAFRA KINGDOME
SERPONOWTZI
BAIDA
TARTARIA
CHITAI
KALMACHI
CHAZAL
USBECK
GITA
TURQUES
TIBRET & TOBROT
Desert of Lop
Desert of Belgian
MOTRICK
MELAIR TARTARIA
NAIMAN
CAVONA
CARIA UE
MONGUL
MAGOG
CIORZA
BARGU
MEDITÆ
aux Arabes
THE TARTARIAN SEA
KINGDOME of CHINA
the EMPIRE of GREAT MOGOL
Thomas Burnford Sculp

TARTARY.

TARTARY, or TARTARIA, is seated in the most Northern part of all *Asia*, and extends it self from East to West, from the River *Volga* and *Oby*, which separates it from *Europe*, unto the Streight of *Jesso*, which separates it from *America*; and from South to North, from the *Caspian* Sea, the River *Gehon*, and the Mountains of *Caucasus* and *Ussanir*, &c. which divides it from the more Southernly part of *Asia*, unto the Northern *Frozen* or *Scythian* Ocean. *Tartary*, Its extent.

It reaches in length from the *19th* unto the *180th* degree of *Longitude*, which is the half of our *Hemisphere*; and in breadth, from the *35th* or *40th* unto the *70th* or *72th* degree of *Latitude*, which is half the breadth of all *Asia*: So that it may contain 1500 Leagues from West to East, and 7 or 800 from North to South. Its length and breadth.

Its position is almost entirely in the *Temperate Zone*; nevertheless its more Southern parts being in the midst of this *Temperate Zone*, and the rest advancing to the *Cold* or *Frozen*; and its Southern parts being almost all bounded with very high Mountains, which keeps off the heat of the mid-day Sun, and renders it more cold towards the North; We may say, that *Tartary* in general hath its temperature much more cold than temperate. Its Position.

Its Neighbours are the *Moscovites*, on the West; the *Persians*, the *Indians*, or the *Mogolls* and the *Chinois*, on the South; the rest is washed by that Sea of which we have little knowledge; some place towards the East, the Streight of *Anian*, which should separate it from *America*; others, the Streight of *Jesso*, which divides it from the Land or Isle of *Jesso*, which is between *Asia* and *America*, as we shall declare after *Japan*. Some esteeming the *Northern Ocean* in one manner, and some in another. Its Neighbours

The name of *Tartaria* is apparently taken from the River, *Quarter*, or *Hord* of *Tartars*; from whence these People being issued, have over-run and made themselves known in all parts of *Asia*. Others take it from the word *Tatar* or *Totar*, which in the *Syriack* signifies *Remnant* or *Forsaken*, because they esteem them the *Remnant* of the *Jews*, of which *Ten Tribes* were transported into *Media* by *Salmanzer*. They must then add, that these *Ten Tribes* passed from *Media* into *Scythia*, which is not observed by the Ancients. However it be, the *Persians* yet call this Country *Tartar*, and its People *Tatarons*; the *Chinois*, *Tagus*. Its Name, why so called.

The People which possess this Country differ something from one another, as well in *Personage*, as in *Religion* and *Manners*; but for the most part they are of an indifferent Stature, ugly Countenances, thick Lips, hollow Eyed, flat Noses, broad Faced very strong, stout, valiant and good Warriers; very active, vigilant, and exceeding quick of Foot; patient in all Afflictions; they are very rude, barbarous and revengeful, not sparing their Enemies, whom in revenge they eat, first letting out their Blood, which they keep, using it as *Wine* at their Feasts. Its Inhabitants

Their Habit is very mean, which is for the most part made of course stuff, which reaches but to their Knees; yet are they very proud, despising all other Nations, and thinking their *Cham* to be the greatest Prince in the World; whom they greatly fear and reverence, being no better than his Slaves. They are very hasty and sluttish, much given to drink, of a treacherous and thievish nature. Their Habit.

Religion. In matters of Religion, they are generally *Pagans* and *Mahumetans*, which about the year 1246. crept in amongst them, which since hath spread it self over their Country, and intermixing with *Paganism*; yet hath it not so much prevailed as to extinguish *Christianity*, which was first planted amongst the *Scythians* (which were the Ancient people of *Tartary*) by the preaching of two of the Apostles, St. *Philip* and St. *Andrew*, which of latter years hath much lost it self, and not only by the prevailing of the *Nestorian* Sect, but chiefly for want of instructing the People in the true Orthodoxal points of *Christian Religion*.

Dyet. Their Food is mean and very sluttishly dresst; yet use they entertainments, and refuse nothing but *Swines flesh*, and eat all without *Salt*. They are much given to *Hawking*, and other Sports; but not much to Arts or Literature: The *Women* are much of the nature with the *Men*.

Their form of Government. The Government (as *Heylin* observeth) is Tyrannical, their great *Cham* or *King* being Lord of all, in whose breast lieth their Laws, taking the Estates and Lives away of whom he pleaseth; whom they so much reverence, that they call him *the shadow of Spirits*, and *Son of the Immortal God*, and esteem him the Monarch of the whole World. In their execution of Justice they are very severe, punishing every small offence with sudden death. His Revenue without doubt must be very great; for besides the sole trade of *Pearl-fishing*, which upon pain of death none dares to fish for, besides those employed by him; also all the *Gold* and *Silver* that is either found in, or brought into the Kingdom, he doth assume to himself; as also the Tenth of all things that the Country doth produce; and also what else he thinketh fit, as being (as I said before) Lord over them all.

The Revenue of the *Cham*.

Here the Men have the liberty of 2 or 3 Wives, which they never choose but out of their own Tribe: and every Tribe hath a Chief, who is one of the Nobility of the Country, and carries for his Banner a *Horses-Tail* fastned to a *Half-Pike*, and died of the colour belonging to his Tribe.

Their Forces. As concerning the Forces that the Great *Cham* is able to raise, they may be supposed to be very great, by that which may appear by *Tamerlanes* Army, which consisted of a 1200000 Horse and Foot; besides, if we consider what a disturber he hath been, and how he hath enlarged his Territories of his Neighbours, as the *Chinois*, the *Moscovites*, &c. we may judge him powerful; but as his power is great on Land, it is as weak by Sea, scarce being Master of any *Ships*, and as little doth he regard them, though other Princes esteem them as a great security to their Kingdom.

Tartary divided into parts. I shall divide *Tartary* into five principal Parts; which are, *Tartaria* the Desart, *Usbeck* or *Zagathay*, *Turquestan*, *Cathay*, and the True *Tartaria*; the first and last are the most Northern, barbarous, and unknown. The others more Southerly, are better civilized and known, having abundance of fair Cities, and driving a good Trade.

TARTARIA the Desart answers to the ancient *Scythia intra Imaum*; *Usbeck* or *Zagathay* to the ancient *Bactriana* and *Sogdiana*; both the one and the other new Name retaining, in my opinion, something of the ancient; *Sogdiana* of *Zagathay*, and *Bactriana* of *Usbeck*: *Turquestan* to the ancient *Scythia extra Imaum*: *Cathay* is the *Serico Regia*. As for the True *Tartary* it is unknown unto the Ancients, or at least it holds the most Northern part of the one and the other *Scythia*.

Tartaria Deserta, its bounds. *Tartaria Deserta* is bounded on the West with the Rivers *Volga* and *Oby*, which divides it from *Moscovy* on the East, by Mount *Imaus*, which separates it from the True *Tartaria*, and from *Turquestan*; on the North by the *Septentrional* Ocean; on the South by the *Caspian* or *Tabarestan* Sea, by the River *Chesell*, and by certain Mountains which joyn themselves with *Imaus*, and divide it from *Usbeck* or *Zagathay*. All the Country is inhabited by Peoples or Tribes, which are Troops or Bands which they call *Hordes*, having very few Walled places, whither they only retire themselves when forced; for they

Its People, and the manner of their abode. have no settled stay or abode, but wandring perpetually, carrying and driving with them their *Tents*, *Chariots*, *Families*, and all they possess, stopping

stopping only there were they find the best food for their Cattel; to which, as also in Hunting and War, they most addict themselves. They Till not the Earth, though it be good and fertil; and hence it is that this is called *Tartary the Desart*. The chief places in this part are; 1. *Cumbalich*, seated on a Lake: 2. *Girstina*, seated between the two other Lakes, which are conjoyned together by a River. 3. *Jerom*, on a branch of the River *Oby*. 4. *Risan*, seated on the River *Jaick*. 5. *Frutach*. 6. *Centan*. 7. *Caracus*. 8. *Organci*, and 9. *Davasi*. The People that inhabit in this part, have their rise from three several Originals, which are disposed of into many several parts; as, 1. The *Circassians*, which are for the most part *Christians*, and border upon the *Euxine* Sea. 2. The *Samoyeds*, who are altogether *Idolaters*, inhabiting towards the Northern Ocean: and, 3. *Tartars*, which are *Mahometans*, and seated betwixt both the other. And those again are subdivided into divers *Tribes* or *Hordes*; the chiefest of which are, 1. The *Nagajan Tartars*, which are held to be more fierce and cruel, and better Warriers than the other *Tartars*, but void of all Arts; despising *Mony*, or the use of *Corn*, accounting *Mares-milk* and *Horse-flesh* their best dyet, which they are not over-curious in dressing, it sufficing if it is only heated, though with the Sun: and this *Horde* paies yet some Tribute to the great Duke of *Moscovy*, to whom likewise part of this *Tartaria Deserta* belongs. 2. The *Thumenenses*, who are also a warlike People, and much addicted to *Divinations* and *Sorceries*. 3. The *Zavolhenses* are very powerful. The *Kirgessi* are also very strong and warlike; they are partly *Gentiles*, and partly *Mahometans*: They care not to bury their Dead, because of their so after removing, thinking never to see them more, and so leaving them hanging upon Trees. The Country is very fertil, if tilled, being fit to produce several good Commodities, and is also very fit for Traffick, having commodious Havens; and if they would addict themselves to it, would soon gain a good Trade with several other Nations.

The Nagajan Tartars, &c.

USBECK, or *ZAGATHAY*, extends it self from the *Caspian* Sea unto *Turquestan*, and from *Persia* and *India* unto *Tartaria Deserta*: possessing all that is upon the Rivers of *Chesel*, and of *Gehan* or *Albiamu*.

usbeck, its bounds.

Its People are the most civil and ingenious of all the Western *Tartars*, fierce in War, being strong and active, patient in labour, not much addicted to vices, Theft they punish severely; they have a great trade with the *Persians*, to whom they have sometimes been Subjects, sometimes Enemies, and sometimes in good Intelligence; and with the *Indians*, where they have likewise something to do; and with *Cathay*, where they utter their much prized *Manna*, bringing back *Silk*, which they make into Manufactures, and sell in *Moscovy*.

Its people. Their trade.

This part of *Tartary* did contain several Provinces: 1. *Zagathay*, especially so called. 2. *Sacæ*. 3. *Sogdiana*, with some other of less note, in all which are not many considerable Cities, the most famous of which are *Samarcand*, which was both the Cradle and Grave to *Tamberlan* the Great, from whom the Great *Mogolls* boast themselves to be lineally descended, who enriched it with the fairest Spoils of *Asia*, and adorned it with an *Academy*, yet in some repute among the *Mahometans*: Also *Bachara* and *Budaschan*, and also *Balick*, according to some; but which I esteem in *Chorasan*, which hath divers times been in the hands of the *Chams* of *Usbeck*. *Badaschian* is likewise on the Frontiers of *Chorasan*, *Bochara* or *Bachara*, where lived *Avicenna* one of the most famous *Philosophers* and *Physicians* of all the East. The Country is of a different Soil; that of *Zagathay* is indifferent fertil, which is much augmented by the industry of the Inhabitants, who are likewise held the most ingenious, being lovers of Arts, and well skilled in Manufactures, by reason of which they have a good trade with Merchants, which come from several places. *Sacæ* is very barren, and ill manured, and full of wild *Desarts*, *Forrests*, and Uninhabited places, by reason of which the Inhabitants remove their Herds of Cattle from place to place, where they can find best food for them. *Sogdiana* hath very rich Pastures, and watered with many good Rivers, which much conduces to its fertility; in which, as also in *Zagathay*, are several Towns and

Its parts; chief places and fertility.

and Cities; as 1. *Jarchan.* 2. *Sachi.* 3. *Istigias.* 4. *Busdaschan.* 5. *Bachara:* and 6. *Poganſa*, which laſt is ſeated on the Sea.

Turqueſtan, its bounds and chief places.

TURQUESTAN lies East from *Usbeck* or *Zagathay*, West from *Cathay*, North from *India*, and South from True *Tartary*. It is ſubdivided into ſome Kingdoms, of which the beſt known are *Caſcar*, *Cotam*, *Chialis*, *Ciartiam*, *Thibet*, *Chinchintalis*, &c. A part of their chief Cities being of the ſame name. Some name *Hiarchan* inſtead of *Caſcar*, and *Turon* or *Turphan* inſtead of *Chialis*, for the chief Cities of the Kingdom. That of *Caſcar* is the richeſt, moſt fertil, and beſt cultivated of all: That of *Ciartiam* is eſteemed the leaſt, and all ſandy, having in recompence many *Jaſpars* and *Caſſidoines*; but that of *Caſcar* hath likewiſe excellent *Rhubarb*, and in great quantity. Thoſe of *Cotam* and *Chialis* have *Corn*, *Wine*, *Flax*, *Hemp*, *Cotton*, &c. *Thibet* is more advanced towards the *Mogolls* of *India*, and the moſt engaged in the Mountains of *Imaus*, *Caucaſus*, and *Uſſontes*. It hath many *wild Beaſts*, *Muſk*, and *Cinnamon*; and they make uſe of *Coral* inſtead of *Mony*. The Relations which have been given in 1624 and 1626, have made this Eſtate ſo great and rich, that they would confound it with *Cathay*: but thoſe of 1651 make the Region very cold, and always covered with *Snow*; eſteeming its King wholly barbarous, and leſs powerful than him of *Serenegar*, who is only a *Rahia* in the Eſtates of the Great *Mogoll*: ſo little aſſurance is there in the moſt part of theſe Relations. The other places of note in *Turqueſtan* are, *Camul*, *Turfan*, *Emil*, *Sark*, *Caſſia*, *Andegen*, *Raoſa*, *Cotain*, *Peim*, *Finegle*, *Lop*, *Ciartiam*, *Sazechiam*, and *Vociam*; and in this part is the Lake of *Kithay*, which is 65 Leagues in length, and 40 in breadth.

Its fertility and commodities, &c.

Cathay, its bounds.

CATHAY is the moſt Eaſtern part of all *Tartaria*, and eſteemed the richeſt and moſt powerful Eſtate. It is contiguous to *Turqueſtan*, on the Weſt, to *China* on the South, to True *Tartary* on the North; and on the Eaſt is watered by the Streight of *Jeſſo*.

Some eſteem all *Cathay* under one only Monarch or Emperour, whom they call *Chan* or *Ulacan*, that is, Great *Cham*, and ſpeak him one of the greateſt and richeſt Princes in the World. Others account divers Kings, but all Subjects to the Great *Cham*. The Country is much frequented, well tilled, and in moſt places very fertil, abounding in *Wheat*, *Rice*, *Wool*, *Hemp*, *Silk*, *Muſk*, *Rhubarb*, great Herds of *Camels*, of whoſe Hair they make *Chamlets*, and abundance of *Horſes*, with which they furniſh other Countries, and eſpecially *China*, with what other things can be deſired. *Cambalu* is eſteemed its Metropolitan City, in which the Great *Cham* reſides, pleaſantly ſeated in a fertil Soil, and on the River *Palyſanga*, which hath its courſe through the City, which is ſeated in the midſt of the Country, being as it were the center to others. This City, beſides its Suburbs, is eſteemed to be 28 miles in circuit, being as it were four ſquare, each Angle being 7 miles in length, all encompaſſed with a ſtrong Wall 10 paces thick; to which, for entrance into the City, there is at each Angle 3 Gates, to every one of which there is a Palace; beſides in every Angle a more ſumptuous Palace, in which the Armour of the Garriſon Souldiers are kept, which are accounted 1000 of each Gate. The Buildings are (for the moſt part) of *Free-ſtone*, and very proportionably built; the chief Streets large, and ſo ſtrait, that one may ſee from one Gate to the other, which gives it a gallant proſpect.

Its fertility and commodities.

Its chief place *Cambalu*.

The Great *Cham's* Palace.

In the midſt of this City is a ſtately Palace, where the Great *Cham* reſides, together with his *Queens* and *Children*. This *Royal Palace* is four ſquare, and of a vaſt bigneſs, having beſides its Out-walls ſeveral other incloſures; adorned with ſtately Structures, beautified with pleaſant *Walks*, *Gardens*, *Orchards*, *Fiſhponds*, with ſeveral other places for Recreation. His Attendance, State, and Riches, is great. Without the Walls are 12 Suburbs, each 3 or 4 miles in length, adjoyning to each of the 12 Gates; and in theſe Suburbs the *Merchants* and *Strangers* reſide, each Nation having a ſeveral *Cane*, or *Store-houſe*, where they both lodge and exerciſe their Trade, bartering their Commodities for one anothers, being of a great Trade, and frequented by *Merchants* and *Strangers* of ſeveral Countries, but more eſpecially by the *Perſians*, *Chinois*, *Indians*, and

Its Trade and Commodities.

and the *Tartars* themſelves, which renders it very populous, it being the chief place for Trade in all *Tartary*, abounding not only in thoſe Commodities aforeſaid, but alſo in the Spices of *India*, the Gems of *Pegu* and *Bengala*, the Drugs of *Arabia*; alſo the *Carpets*, *Tapeſtries*, *Silks* and *Manufactures* of *Perſia*, &c.

Their Monies.

The *Mony* currant here, and throughout this large Territory, is very different, neither is it made of *Gold*, *Silver*, or *Copper*, as with us; but of the middle Bark of the *Mulberry Tree*, which being made ſmooth and firm, they cut round into great and ſmall pieces, on which they imprint the *Kings Mark*, as we do on our Mony; and theſe pieces, according to the bigneſs and thickneſs, are valued at a certain rate, and are paſſable for the buying of all Commodities; and it is deemed death for any one to counterfeit, or make any of this Mony. But in ſome places under the Great *Chams* juriſdiction, they uſe poliſhed *Coral* inſtead of Mony: and in other places they uſe twigs of *Gold*, which is diſtinguiſhed into ſeveral parcels by weight, but without Stamp or Character, and this is held in caſe of great importance: they alſo uſe in ſome places *Porcelain* inſtead of *Mony*; likewiſe they make a kind of Mony of *Salt*, which they boil until it be congealed hard, and then make it up into round lumps, on which is put the *Princes* Stamp. And theſe are the ſeveral ſorts of Mony which paſſeth amongſt them; yet by reaſon of the Trade that this place hath with other Countries there adjacent, their Coyns are here found currant, as are thoſe of the *Grand Signior*, as alſo thoſe of *Moſcovy*.

Beſides this *Palace* aforementioned, he hath another which is eſteemed the principal of his abode, which is not far from this City, which Merchants are not permitted to enter; the Palace is called *Zaindu*, being four ſquare, and, if Authors may be believed, every Square is 8 miles in length, and within this Quadrant is another, whoſe ſides are 6 miles in length, and within that another of 4 miles ſquare, and this is eſteemed the very Palace it ſelf, and between theſe ſeveral Walls are ſtately *Walks*, *Gardens*, *Orchards*, *Fiſh-ponds*, *Parks*, *Forreſts*, *Chaſes*, for all manner of pleaſures and game, as alſo ſeveral other places for all manner of Courtly and Military exerciſes. This Palace is exceeding richly built, having many ſumptuous Edifices; his attendance great, 12000 Horſe being his daily guard, beſides an exceeding great number of other Attendance and Serviturés.

Tanguth, and its chief places.

The greateſt and moſt potent Parts or Kingdoms of *Cathay*, are *TANGUTH*, whoſe chief City is *Campion*; where the *Caravans* of Forreign Merchants ſtop, it not being permitted them to go farther; a City well built, and where the *Chriſtians*, in the time of *Paulus Venetus*, had 3 fair Churches; but of later time have much loſt themſelves through the great increaſe of the *Gentiles*, who have here ſeveral Monaſteries, where they keep and worſhip their Idols, where they have alſo ſeveral Religious perſons only dedicated to their ſervice; and this Kingdom hath much *Rhubarb*. The Kingdom of *TENDUC*, with its City of the ſame name, furniſhes *Cloth of Gold* and *Silver*, *Silks*, *Chamlets*, &c. and it is thought that *Preſter John* reſided in theſe quarters; there being yet a particular King, who is a *Chriſtian*, but of the Sect of the *Neſtorians*, and ſubject to the Great *Cham*.

Tenduc.

Thainfur.

THAINFUR is known for the great number of its *People*, for the excellency of its *Vines*, for the goodneſs of its *Arms*, and of its *Cannon*, &c. for the reſt, all great Travellers count Marvels, of the greatneſs, power, and magnificence and riches of this Great *Cham*; of the extent of his Eſtates, of the Kings ſubject to him, of ſo many Ambaſſadors always in his Court, of the reverence and reſpect bore him, of the power and infinite number of his Men of Arms; but it is ſo far from *Europe*, that we could ſcarce believe them, till he made ſeen his power in 1618, having poſſeſſed the Ports and Paſſages of that great Mountain and Wall which ſeparates *Tartaria* from *China*; caſting an infinite number of Men into the great Kingdom, taking and pillaging its faireſt Cities, and almoſt all its Provinces, forced the King of *China* to retire himſelf into *Canton*; leaving him in poſſeſſion of not above 1 or 2 of its Provinces: But the relations of 1650 gives the King of *China* re-entrance into the greateſt part

The ſtate and power of the Great *Cham*.

eſt part of his Eſtates; its other parts are, *Egrigaja*, whoſe chief places are *Serra* and *Mulon*: alſo *Egrimul*, whoſe chief place is ſo called; then *Serguth*, whoſe chief place is *Erzina*; and laſtly, *Belgian*, whoſe chief place is ſo called.

The People of *Cathay*.

The People in this part of *Tartaria* are generally ſtrong of body, ſtout, warlike, and couragious, though in the greateſt dangers; alſo very active, and patient in afflictions, ingenious, and given to Manufactures, more civil and courteous to Strangers than the reſt of the *Tartars*; loving to wear good Apparel, and feed delicioufly, which the others are negligent of; in Stature they are but of a mean ſize, but well proportioned, and of an indifferent good Complexion.

Their Religion.

In matter of Religion they are either *Gentiles*, *Chriſtians*, or *Mahometans*, which latter is moſt uſed, it being publickly and generally allowed amongſt them, in which Religions they obſerve ſeveral Ceremonies, not much different from thoſe of other Countries, eſpecially in *Chriſtianity* and *Mahometiſm*.

The True *Tartary* deſcribed.

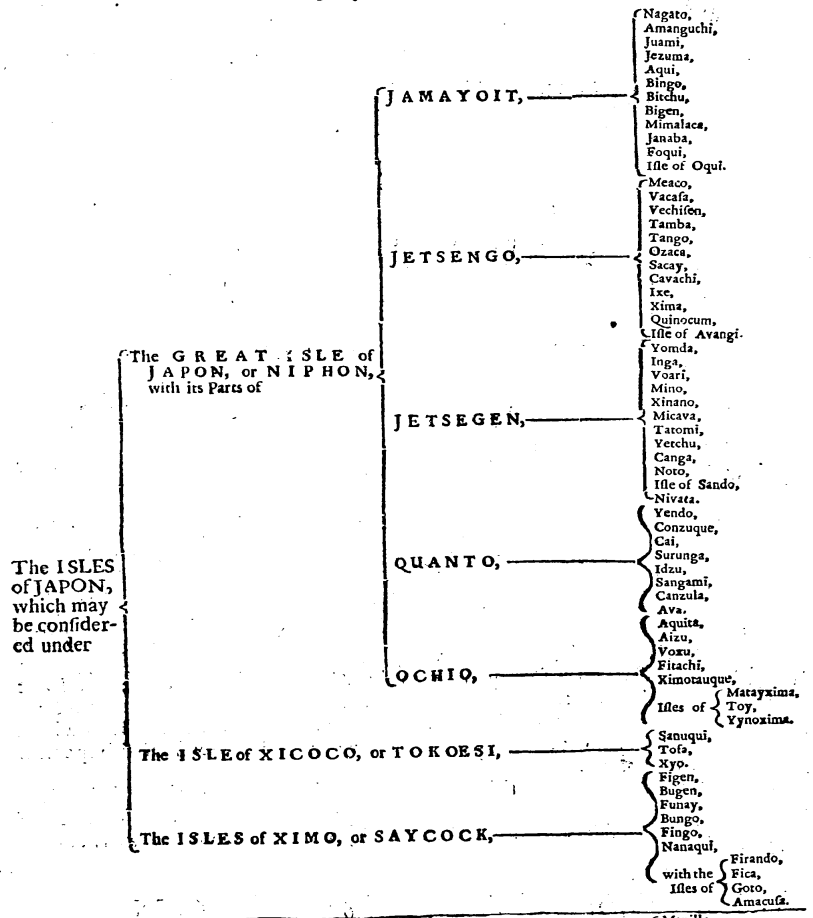
The True and Ancient *TARTARY*, is the moſt Northern of all the parts of *Tartary* taken together, and likewiſe the coldeſt, the moſt untilled, and moſt barbarous of all: nevertheleſs it is from hence that the *Tartars* iſſued in the year 1200, and having made themſelves Maſters of 6 *Hordes* moſt adjacent to theirs, have ſince made themſelves known, and have carried their Arms and their Government into the greateſt and faireſt parts of *Aſia*. This is the place where the *Ten Tribes* are ſuppoſed to have reſted, which were tranſported into *Media*; and ſome ſay, that the name of *Dan*, *Nepthalim*, and *Zebulon*, are yet found amongſt them; but it is eaſie to forge what names men pleaſe in parts wholly unknown. The *Kingdoms*, *Provinces*, or *Hordes* of the Great *Mogoll*, of *Bargu*, *Tartar*, *Nayman*, *Annibi*, &c. are the moſt known. Some Authors place here *Gog* and *Magog*, which others will have to be in the Eſtates of the *Mogoll*, and of *China*, and towards *Maug*, above the Lake of *Chiamay*.

Its Commodities.

The principal Riches of the True *Tartary* conſiſts in their *Cattle* and *Furs*, among which moſt eſteem is had of their *white Bears*, *black Foxes*, *Sables*, &c. they live on *Milk* and *Fleſh*, of which they have great plenty, neither caring for *Fruits* nor *Grains*; and in a word, have ſtill ſomething of the ancient *Scythian*. Some amongſt them have their *Kings*; others live by *Hordes*, or *Communalties*; almoſt all are *Shepherds*, and the greateſt part ſubject to the Grand *Cham* of *Cathay*.

The chief places in this part of *Tartary*, do commonly take their names from their *Kingdoms*, *Provinces*, or *Hordes*, in which they lie.

The



THE Oriental Isles OF ASIA.

The Oriental Isles of *Asia*.

THE Isles of *Asia* are as many in number, and as great, rich, and populous as those of all the rest of the World. They are spread here and there, in the great *Oriental* or *Indian Ocean*, and for the most part about the *Indies*. I shall divide them into 5 Parts or Bodies, and call the Isles of *Japan*, those which are on the East of *China*; the *Philippine* Isles, those which are likewise on the South East of *China*; the Isles of the *Moluccoes*, those which are to the South of the *Philippines*; the Isles of the *Sound*, those which are to the West of the *Moluccoes*; and I put for the fifth *Ceylan* and the *Maldives*, which are East, and South-East from *Cape Comori*, the utmost point of *Malabar*. There are moreover many Isles which belong to *Asia*, but not to compare with these; of which we shall also speak a word as occasion offers.

The Isles of *Japan*, are on this side the *Tropick* of *Cancer*; the *Philippines* between the *Tropick* and the *Equinoctial* Line; the *Moluccoes*, the Isles of the *Sound*, and the *Maldives*, are about this Line, returning from East to West.

The Isles of JAPAN *or* JAPON.

The Isles of *Japan*.

WE call the Isle or Isles of *Japan*, a certain multitude of Isles, and of different bigness, which are on the East of *China*, distant from it about 100 Leagues; and so are seated in the most *Oriental* part of our *Continent*: They stretch together in length about 300 Leagues from West to East, and from South to North 40, 50, 60, and sometimes 100 Leagues in breadth.

Amongst these Isles there are 3 very considerable. The first and which is much greater then the two others, is called by us *Japan* or *Japon*; by its *Inhabitants*, *Hippon* or *Niphon*, which signifies *The Spring of Light, or of the Sun*: A name proper for it, since it lies to the East, and Sun-rising of all *Asia*, and of all our *Continent*. The second is called *Ximo*, that is, a *Low Countrey* or *Saycock*; that that is, *Nine Kingdoms*. The last *Tokoesi* or *Xicoco*, that is, *Four Kingdoms*.

We must likewise make account that these three great Isles are cut asunder by several Channels, which divide them into several Isles; but because these Channels are very narrow, these parts are esteemed pieces contigious in regard of the others, where the Channels, or rather the Arms of the Sea which divide them, are much larger.

They

They have all those *Fruits*, *Trees*, *Herbs* and *Beasts*, which we have in *Europe*, with several others not known amongst us; as also abundance of several *Fowls*, both tame and wild; the surface of the *Earth* is well clothed with *Woods* and *Forests*, in which are found very lofty *Cedars*; and the bowels of the *Earth* stored with divers *Metals*, as *Gold*, *Silver*, *Copper*, *Tin*, *Lead*, *Iron*, &c. though not so good as in the *Indies*, except it be their *Silver*, which is excellent and abundant. Their *Pearls* are great, red, and of no less esteem then the white ones. These with several *Manufactures* which are here made, are the chief *Commodities* of this Island.

Chief places. *Meaco* described.

In this Island are several Cities of some note; as 1 *Meaco*, seated in the midst of the great Isle of *Japan*, a fair and large City, formerly 21 miles in compass; but now by reason of their Wars, it is reduced to the third part of what it was, in which the *Jesuites* did formerly esteem it to have 180000 Houses, and judged it to have near 100000 when they were there. This City is the ordinary residence of the *Trisumviri*, or the three principal Magistrates, which rule or sway the affairs of these Islands; of whom the first is entituled the *Dayri* or *Voo*, that is, the *Emperor*, who hath the care of *Civil Affairs*; the second is the *Cube* or King of *Tenzi*, who is chief of the *Militia*, managing the *Affairs* of *Peace* or *War*; and thirdly the *Zazo* or *Xaca*, who is chief in *Religion* and *Sacred matters*. The City is divided into the higher and lower; the one and the other together were not above 20000 paces long, and 8 or 10000 paces large. The *Palace* of the *Dayri* was in the nigher City, great, stately and adorned with all things which may add to its luster; and the *Houses* or *Palaces* of his *Conges*, with the *Houses* of the chief *Lords* of all *Japan*, were about that of the *Emperor*. The lower City was almost contigious to *Faxime*, which serves for a Fortress to *Meaco*. This City, as most or all those in these Islands, are unwalled; but its *Streets* in the night are chained up, and a *Watch* of two men at each end of every *street*, who are to give account of the transactions that happen in the night. Its *Streets* are large and well composed, its *Houses* well built, and most of *Wood*; all their *Pagodes* are made of *Wood*, they are neither large nor high; and in these *Pagodes* they have several ill shapen *Figures*, to which they address their *Prayers*, and bestow on them great gifts in way of *Alms*, which their *Priests* make use of. *Nobunanga* was the first that lessened this City, which he did by burning a part of it in 1571 and since it hath received divers jostlings of ill fortune. 2. *Amangucki*, a *Maritime* City, and the fairest of the Kingdom of *Nangato*, hath been formerly well known for its Trade, containing few less then 10000 Families. It was burned in 1555 during some revolt; it was builded again, and again burnt, and afterwards rebuilt. These fires happen often in *Japan*, the greatest part of their building being of *Wood*; but the wood is very neat and curious, marbled, &c. *Nangasaki* was the most famous of the Isles of *Saycock*, and there are a great number of fair Cities through all *Japan*.

The Palace of the *Dayri*.

Amongst these Cities, that of *Sacay*, on the South of *Meaco*; which *Ferdinand Mendez Pinto* (provided that he doth not lie) says, he hath known not to have depended upon any King or Lord, but was governed of it self, in form of a Republick, created all its Magistrates and Officers; and he assures us, that all the Masters of Families rich or poor, make themselves be called Kings and Queens; and their Children Princes and Princesses. This liberty and vanity is observable if it be true.

The City of *Tendo*.

Mandelslo in his Book of *Travels*, makes mention of a City called *Tendo*, which he makes to be a fair, large, and well built City; in which, he saith, there is a *Castle* about two Leagues in compass, being strongly fortified with 3 *Walls*, and as many *Moats*: The building is very irregular but fair, having to the *Walls* abundance of *Gates*: Within the last *Gate*, he saith, there is a *Magazin* of *Arms* for 3 or 4000 men, on which all the *Streets* that are fair and broad take their rise; in which said *Streets*, on both sides, are many magnificent *Palaces* for the *Nobles*. In the midst of this *Castle*, is seated the *Emperors Palace*, having belonging to it many stately edifices and apartments, as *Halls*, *Chambers*, *Galleries*,

Galleries, *Gardens*, *Orchards*, *Groves*, *Fish-Ponds*, *Fountains*, *Courts*, &c. as also several *Select Houses* for his *Wives* and *Concubines*. And here is his ordinary Residence, being in the *Province* of *Quanto*, about 120000 paces from *Meaco*, between which are abundance of stately and magnificent *Palaces* and *Houses*, for the entertainment of the *Emperor* in his journey between *Jendo* and *Meaco*: But the most beautiful *Palace* next to *Jendo*, is that of *O Jaca* on the Sea, and South of *Meaco*; the buildings of *Jendo*, are so beautified with *Gold*, as well without as within; that at a distance it seems to be rather a *Mountain* of *Gold* than a building.

The Mountains of *Japan*.

Amongst the *Mountains* of *Japan*, there are two very well known. *Figenojama*, four Leagues from *Meaco*, renowned for its height, which stretches it self above the Clouds; and *Fuy* or *Fuycan* in the Kingdom *Hietcheu*, which vomits *Fire* in great abundance, as some time did *Aetna* in *Sicilia*, *Vesuvius* at *Naples*, and the Isles of *Volcan* and *Strongoli* among those of *Liparid*: And on the top of this *Mountain*, the *Devil*, in a white and shining Cloud, shews himself in divers forms, but only to such of his *Votaries* as live about this *Mountain* an abstemious life, like the ancient *Hermits*, as in Fasting, undergoing many austerities, and compleating the Vow they made for this purpose.

The People of *Japan* their dispositions.

The Country hath hot and medicinal Waters in several places; the common Waters are healthful; the *Inhabitants* of a good stature, strong and active; in complexion they are inclining to an *Olive* colour, well disposed, judicious, apt to learn, of sound memories, subtile in their dealings, more inclined to *Arms* then *Letters*, though they become perfect in both, having many *Academies* and *Universities*: They are ambitious of glory, patient in affliction, hating *Idleness*, *Gaming*, or all ill-husbandry; as also slandering, swearing, lying, theft, and generally all vices, which they severely punish, and oftentimes to death.

Their *Arms* are esteemed the most excellent of all the *Indies*, they being more valiant and warlike then the *Chinois*, and more patient of labour; one of their Kings conceived no less then that he could conquer *China*, and to that purpose levied 2 or 300000 men, which went against it, and brought back good booty. They have long used the *Art* of *Printing*, they are very civil, and much given to visits and entertainments; they delight in rich and costly furniture in their *Houses*, with the adornment of *Pictures*, *Cabinets*, *Arms*, &c. They are very punctual in performing their promises.

Their Religion and belief.

In matters of *Religion* they are for the most part *Gentiles*, adoring anciently the *Sun*, *Moon* and *Stars*, giving adoration to *Wild Beasts*; but they chiefly worship the *Devil*, and that partly for fear of hurting them: To which purpose, they have in all their *Pagodes*, which are numerous, several ill-shapen Figures which they pray to. And to these *Pagodes*, there belongeth a great many *Priests*, to whom they shew a great respect, and allow a good subsistence who by their habit are known from other persons, and live a very strict life, abstaining from *Flesh*, even to the use of *Women*.

Amongst them they have several *Sects*, which possibly are so many different ways in performing their *Devotions*, in which they are not over strict, nor over devout. Some of them believe the immortality of the Soul, that the Body is reduced to its first principles, and becomes dust and ashes; and that the Soul is either raised to joy, or condemned to eternal sorrow, believing the *Resurrection*; and that at its return into the World, it shall find good or evil, according to its actions: Whereas others make no account of the dissolution of the World nor put any difference between the Souls of Men and Beasts.

They are very jealous of their *Wives* and *Concubines*, not admitting them the liberty of walking abroad, or society with men at home; they are very modest, and not given to meddle with any kind of business that appertains to their *Husbands*. *Adultery* they severely punish, but *Fornication* is permitted amongst them: They are very indulgent to their Children, and give them good education: They are very tender of their honor, being shie of doing any thing which may eclipse it; and as they will give no injuries to others, so they will take none.

Their

The state power, &c. of the Emperor.

Their *Emperor* dwels in great state and pomp, having attendance of *Nobles* and others: He is highly esteemed and reverenced of his Subjects, even to adoration. In his Government he is in a manner tyrannical, having in his power, the Lives and Estates of his Subjects, though he doth not often shew it; his Revenue is exceeding great, and his power, as hath been spoken of before, very strong.

All his Nobles (which are very many) live exceeding stately, and have great Revenues: And when any of them happen to die, they have a custom, that about 20 or 30 of their Slaves do voluntarily kill themselves to wait upon the Souls of their deceased Lords, which they hold to be a great honor to them, and a discharge of their fidelity and love they bear to them.

But there are many defaults observed in their government, and in their manner of living: The great number of their Kings and their Princes, which still endeavour to make themselves great; The Revolts and Rebellions, to which those people are subject on the least occasion; The principal form of the Government, which is almost wholly tyrannical. The little care they have of Tillage, and of keeping fowl at home, or Flocks in the Field, makes them often want needfull Food. And it is observed, That they have many manners and customs different, and often contrary to ours, or those of their Neighbors: As when they go out of the house, they leave off their Cloak, which they put not on again, till they come in; whereas we leave it off in the house, and put it on abroad. When they meet a friend, they salute him by putting off their Shoo, and shaking their foot; we salute by uncovering the head. In walking they give the left hand, esteeming it most honourable, whilst we believe the right so to be. Receiving a friend at home, they remain seated on the ground; we stand till he who comes to see us is seated. The *Earth* covered with *Mats*, serves for *Bed*, *Table* and *Seat*, (for they uphold themselves on their knees, on that *Mat*, when they eat;) our *Bed*, *Table* and *Seat*, are raised from the ground, for our repose or eating. They esteem *Black Hair* and *Black Teeth*; we *Fair Hair* and *White Teeth*. They mount on Horse-back from right to left; we from left to right. They set the name of their Family before their proper name; we our proper name before that of our Family. They will not that those Women they take in Marriage should bring any riches; here we seek after those who have most. So soon as their Women are married, they have no longer liberty to go abroad; here more then before. *Black* is their sign of joy, and *White* of mourning; *Black* our mourning, and *White* our joy. Their richest *Tapestries* are *Mats*, thin, close, and of divers colours; ours of *Wool*, *Silk*, and oftentimes of *Gold* and *Silver*. Their *Stone Buildings* have neither *Morter* nor *Plaister*; here they build not without both. They despise all *Precious Stones*, and esteem more their *Vessels* of *Earth*, which serve to keep their *Drink*; which we make little esteem of, but much value *Precious Stones*. They drink nothing but what is hot; those most delicate with us is cool. Their *Physick* is sweet and odoriferous; ours bitter and unpleasant. They never let their sick Blood; which with us is very common upon the least occasion. These with several other customs, contrary to ours, do they observe amongst them, which are too long to set down. Nor want they fine Reasons to sustain their Customs better then ours; they say we must conserve our Blood, as one of the principal sustainers of our Life; that we must not give a sick person that which is displeasant, troublesom, and sometimes affrights him to see, much more to drink or eat; that hot water augments the natural heat, opens the conduits, and quenches thirst; that cold closes the Pores, begets the Cough, weakens the Stomach, and quenches natural heat; that their *Vessels*, of which they make such esteem, are necessary for many things in a Family, which *Precious Stones* are not; that their buildings may be easily taken down, carried other where, and erected in another manner, when they will; which ours cannot, &c.

The *Japanois* differ in many Customs from other Nations.

Amongst their Manners, there are some very good; they hate *Games* of *Hazzard*; they are very patient in bad fortune; they maintain themselves honestly in their Poverty; suffer not themselves to be transported with Passion; speak not ill of the absent; know not what it is to swear, lye, or steal; suffer easily

easily all incommodities of heat, cold, famine, or thirst; yet all this, rather to get the honor of being esteemed constant and vertuous, then being so truly; for they are subject to *Vices*, as well as their Neighbors. But let us leave their Manners, and speak a word of their *Government*, which of late hath encountred a diversity, and deserves to be known.

The general Estate of all these Isles, was not long since divided into 66 Kingdoms; of which the Isle of *Japan* alone had 47, which with some little Neighbouring Isles was made up 53, that of *Ximo* or *Saycok* had 9 according to its name, and *Chicock* the other four.

The Estate of these Isles.

At present the order is much changed; the whole Estates are fallen into the hands of one alone, as it hath been formerly; and is divided into 7 *Provinces*, or principal parts; and those 7 parts subdivided into many others; which ought to pass under the name of Lordships; some of which yet retain the name of Kingdoms, others of Dutchies, Principalities, &c.

Those which command in the lesser parts, are called generally *Tones*, *Caron* ranges them in six different degrees, and calls them *Kings*, *Dukes*, *Princes*, *Knight-Barons*, *Barons* and *Lords*, which according to our degrees of honour are distinguished by *Kiugs*, *Princes*, *Dukes*, *Marquisses*, *Earls* and *Barons*. *Caron* makes 21 *Kings*; some of which possess 1 or 2, and some 3, and in all 30 and odd of the 66 ancient Kingdoms. After the *Kings*, he puts 4 *Dukes*, 6 *Princes*, 17 *Knight-Barons*, 50 *Barons*, and 41 *Lords*, giving each a Revenue of at least 100000 *Livers per annum*, and so augmenting to the greatest to whom he gives 10 Millions and more; and makes account that the *Cube* or *Cesar* of *Japan* spends at least 100 Millions of Crowns yearly, as well in the expence of his house, as in his *Militia*, and what he disburses to the *Tones*.

The parts of *Japan*.

The names of the 7 principal parts, into which the Estate of *Japan* is divided, are *Saycock*, *Xicoco*, *Famasoit*, *Jetsengo*, *Jetsegen*, *Quanto* and *Ochio*. *Saycock* with the Isles which belong to it, is the neareast to *China*; *Chicock* is on the East of *Saycock*; the other five parts are in the great Island, and extend themselves advancing from East to West. *Jamosoit* being the most Western part of all, and answering to the 12 Kingdoms, which the King of *Nangato* or *Amanguci* hath formerly possessed. *Jetsenco* and *Jetsegen* together make the middle of the great Island, and apparently that which passed under the name of *Tenza*, and contained 20 others. *Quanto* and *Ochio* advance themselves from the East, unto the streight of *Sangaar*, which divides *Japan* from the Land of *Jesso*, of which more anon; *Quanto*, comprehended 8 Kingdoms, and *Ochio* the rest, and in these parts there are abundance of Cities and Towns, which I have observed in my *Geographical Tables*.

But because the diversity of names of *Dayri* or *Emperor*, of *Cube* or *Cesar*, of *Tones* or *Kings*, *Princes*, *Dukes*, &c. may breed some confusion; to give a more particular knowledge, we will say succinctly, that before the year 1500 there was in all *Japan* only one Soveraign, which they called *Voo* or *Dayri*, that is *Emperour*.

The Isle or Land of JESSO.

The Isle of *Jesso*.

After the Isles of *Japan*, let us speak a word of the Isle or Land of *Jesso*, *Tedzo* or *Jesso*, for divers Authors write its name differently, some calling it the Isle, some the Land abovesaid, and to the East of *Japan*, in the manner that the *English*, *Portugals* and *Hollanders* describe it, this Land must extend from *Asia* to *America*: They say that from *Tessoy*, which is the most Western point of it, opposite to *Coray*, and near *Tartary*, advancing towards the East, it is 60 days journey to the *Province* of *Matzumay*; and that from *Matzumay* unto the most Easterly point, and neerest *America*, it is likewise 90 days journey; so that it is 150 days journey from one end to the other; which after only 8 Leagues a day will be 1200 of our Leagues. Its breadth is not spoke of.

The

The Streight of *TESSOY* which separates this Isle from *Tartary*, hath great currents, caused by the discharging of several Rivers which come from the Northern parts, and from *Tartary* and *Jesso*. The other streight which separates it from *America*, may in all likely-hood be that *Anian*; and those two streights, limit the two extremities of *Jesso*, towards the midst, must be the Province of *Matzumay* and apparently beyond the Streight, which separates the Isle of *Japan*, from the Land of *Jesso*; and this streight may be called the streight of *Sangaar*, which is the utmost East-Land of *Japan*.

The streight of *Tessoy*.

The traverse, or traject of this streight is not above 10 or 12 Leagues; others say not above so many miles; others there are affirm it no streight, but an *Isthmus* which fixes *Japan* to *Jesso*; and that both the one and the other together are but one Isle; so difficult it is to find the truth of a thing so far distant.

This Isle or Land of *JESSO* is so great and vast, that the *Inhabitants* cannot but have different manners; those which are neareast *Japan*, resembling the *Japanois*, those which are near *Tartary*, the *Tartars*; and those near *America*, their neighbouring *Americans*; and in all likelihood they are more barbarous then all their neighbours.

They are all *Idolaters*, covering themselves with the skins of *Beasts*, which they take in *Hunting*; having their bodies all hairy, and wearing their Beard and Mustachoes very long: they are Warlike, Cruel, and Formidable to the *Japanois*; In War they have no other remedy for their wounds, but washing them in salt water.

Its Inhabitants.

The Land is little inhabited; it would be rich if it were well tilled; it hath many Mines of *Silver*, and quantity of excellent *Skins* and *Furs*; which make it appear that the *Earth* stretches to the Northward. They have some Trade with *Aquita*, which is on the East of *Japan*; but those of *Aquita* go seldom into *Jesso*, because they cannot with security reside with, or trust those *Barbarians*.

Its fertility.

The PHILIPPINE *Islands, or of* LUSON *and the* MANILLES.

THe *PHIPPINE* Islands are so called by the *Castilians*, because they conquered them under *Philip* the second, King of *Castile*. The People of the East call them the Isles of *Luson*, because of the greatest and most famous of these Isles, which they call *Luson*, a principal City of this Isle, being likewise so called. The *Portugals* call them *Manilles*, from the City *Manilla*, at present the chief City of the Isle of *Luson*. They are in the *Oriental Ocean*, to the Southward of *China*, to the Eastward of *India*, North of the *Moluccoes*, and Westward of the Islands of *Theeves*: But they are 4 or 500 Leagues distant from these, not above 100 from *China*, and much nearer the *Moluccoes*, and the the Isles of the *Sound*.

Philippine Isles.

Their names.

Their situation is between the *Equator*, and the *Tropick* of *Cancer*; to wit, from the 5 unto the 20 degree of *Septentrional Latitude*: and from the 155, unto the 170 *Meridian* or *Degree* of *Longitude*; and so contain 15 or 16 degrees of *Longitude* and *Latitude*, extending themselves in length and breadth 3 or 400 Leagues.

Situation.

LUSON, *MINDANAO* and *PARAGOYA*, are the greatest: *Luson* towards the North, *Mindanao* towards the South, and *Paragoya* towards the West; so that they form almost an *Equilateral Triangle*. *Tandaya* otherwise *Philippina*, *Mindora*, *Panay*, *Masbate*, *Rebujan*, St, *John*, *Cebu* or the *Pintados*, *Negoas*, *Matan*, *Bohol*, and few others are of a lesser circuit. *Tandaya* is South-East from the most Southerly point of *Luson*; and the streight between is called of *Manilla*, not because of the City *Manilla*, more then 100 Leagues distant; but because of the Isles of *Luson*, which are called likewise of *Minilla*. *Mindora* on the South of the Isle of the Gulph, and City of *Manilla*: The rest are between *Luson* and *Mindanao*.

The chief Isles and places described.

We

We might likewise make account of *Messane*, *Calegan* and *Buthuan*, near *Cebu*; of *Abuyo* and *Capuli*; of *Banton*, *Rebujan*, *Vireges*, *Marinduque* and *Luban*, between *Masbate* and *Mindora*; of *Ilogues*, *Mauris*, *Coyo*, *Bankingle* and *Kapull*, between *Mindora* and *Paragoya*, and between *Paragoya* and *Mindanao*; of the *Little Philippine* on the West; of the *Babuyonnes* on the North; of *Catandanis*, *Paracalla*, *Linton*, and others on the East of *Luson*; of *Palmes* and St. *John* on the East of *Mindanao*. But we cannot name them all, there being so great a number, that some esteem them 1000 or 1200 of considerable note, and in all 10 or 12000.

Magellan was the first of the *Europeans*, who discovered these Islands in 1520 In 1564 *Don Lewis de Valasco*, *Vice-Roy* of *Mexico*, sent *Michael Lapez de Legalpes* to establish some *Spanish Colonies*; and facilitate by that means their Traffick from *Mexico* with *China* and *Japan*, who seised upon *Luson*, *Cebu*, &c. The *Spaniards* possess at present above 50 of them, among which, *Luson*, *Tenday* and *Cebu*, are the most famous.

The Isle of *Luson*.

Luson sometimes called *New-Castle*, begins before the 13, and ends after the 19 degree of *Latitude* on this side the *Equator*, which are not above 6 degrees or 150 Leagues; but it stretches one of its points towards the East: So that from *Cape Bojador* towards *China*, unto that of *Caceres* towards *Tenday*, is more then 200 Leagues, passing cross the Isle. Its breadth is very unequal, and sometimes only 20, 25, and sometimes likewise 50, 60, and 75 Leagues.

Manille is its chief City, seated in the most Southernly part of the Island; well built, after the modern way; and its Houses are of *Free-stone*, strong, and so great, that the *Spaniards* have been forced to divide some part of it from the rest, to serve them for a *Cittadel*, in case of necessity; by which means, they are not at so great a charge in keeping of so great a number of Soldiers, as would otherwise be requisite for the security of the place. They have a good Port, the entrance into which is yet somewhat difficult, by reason of the Isles and Rocks of *Mirabelles*, at the opening of the Gulph or Bay of *Cavita* or *Cavite*, at the bottom of which, is *Manilla*. The *Governor* or *Vice-Roy* of these Isles, as also an *Archbishop*, who hath a *Spiritual Jurisdiction* over all the *Philippine* Islands, which he exercises by three *Suffragan Bishops*, and some *Priests* have here their Residence. This City is very populous, here commonly residing about 15000 *Chinois*, besides *Japoneses*, and a great number of *Spaniards* which drive a Trade, in several good *Commodities* which the *Earth* and their ingenuity produces, which are brought hither, as being the chief City, of which I shall speak anon.

The other Cities of the same Isle are *Cagajon* or *Nueva Segovia*, in the most Northern part; then *Caseres*, in the most Southern part of the Isle. The City of *Luson* is by all Authors described on the Coast, which regards *China*: And this name hath been most famous. Now it is difficult to know, whether *Luson* or *Manilla* are two Cities; *Linscot* thinks them one and the same.

The Isle of *Mindanao*

Mindanao is composed of three different Isles, which are almost contiguous, the greatest, which is in the middle of the other two, retains the name of *Mindanao*, having about 100 Leagues of length, and little less of breadth. *Canola* towards the West, 75 Leagues long, and 25 or 30 broad. *Las Buenas Sennales*, or the *Good Enfigns*; or likewise St. *John* on the North East, hath only 25 or 30 Leagues of length and breadth: And these three together, are between the fifth and the ninth *Parallel* or degree of *Longitude*, and between the 162 and 169 *Meridian* or degree of *Longitude*, and contain little less then 200 Leagues from the Point of *Galere* on the West, to *Cape Bicajo* on the East.

They belong to divers *Mahometan* or *Pagan* Kings, who are all in good intelligence with the King of *Ternate* of the *Moluccoes*, and ill-affected to the *Portugals*. Their principal Cities are *Mindanao*, which others call *Taboue*, *Suragos* or *Suriaco*, *Lomiaton*, or *Lomiatan*, *Dapito* and *Canola*. Of the scituation of other Cities, of which some Authors make mention, we have no assurance.

PARA-

The Isle of *Paragoya*.

PARAGOTA or *CALIMIANES* of *Boterus*, is the same thing as *Calamian* of *Linscot*; and as *Paloam* or *Puloaym* of *Maginus*, and others: It begins almost at the 8, and ends not till the 11 *Degree* of *Latitude*, stretching it self from South-East to North-East, in length more then 100 Leagues, not having above 10, 15, or 25 of breadth. *Boterus* and *Pigafette* say, that it bears *Figs* half as long and as thick as ones Arm; and others, only of a *Palm* long, but better then that of *Dates*. Its King is Vassal to him of *Borneo*.

The Isle of *Tandaya*.

TANDAYA is about the twelfth *Degree* of *Latitude*, and the 167 of *Longitude*; Its utmost length is about 50 Leagues, and its breadth about 40. It hath born alone the name of *Philippine*, for being the first discoverer of these Islands, and that name hath been communicated to the rest. It is esteemed the best and most pleasant of all; Fruitful, rich, easie to be approached, and its *Inhabitants* courteous. Its chief place is *Achan*.

The Isle of *Mindora*.

MINDORA is not much less then *Tandaya*, but not so famous; yet the Streight between the Isle of *Manilla* and *Mindora*, is called *Mindora*; from whence it may be judged, there is likewise a City of *Mindora* on that Streight and that this place hath formerly been famous. There are here Mines of *Gold*.

The Isle of *Cebu*.

CEBU is in the midst of the *Philippines*. The *Spaniards* have built on the East Coast *Ville-Jesus*, under the 10 *Degree* of *Latitude*, and 165 of *Longitude*. The Port is good, and here it was that *Magellan* contracted Alliance with the King of this Isle, received him into the Protection of the King of *Castile*, and in his favour passed into the Isle of *Matan*, and made war upon its King, where he was killed.

Their Fertility.

All these Isles in general, are very fruitful, and yield a great quantity of *Grains*, of *Rice*, *Fruits*, *Wine*, *Honey*, &c. which are given almost for nothing. They have *Wine* of *Dates*, which yields not to those of *Grapes*, and which are as strong as *Sack*: They feed much *Cattle*, and *Fowl*, as *Oxen* and *Sheep*, which they carry into *New-Spain*; *Hogs*, whose Flesh is excellent, *Goats*, *Pullain*, &c. They have many *Wild Beasts*, as *Stags*, and several sorts of *Venison*, *Wild Boars*, *Tygers*, *Foxes*, *Bears*, *Lions*, *Apes*, *Civet Cats*, &c. which inhabit in their *Forests* and *Mountains*; and in their *Rivers* they have *Crocodiles* and an infinite number of several sorts of *Fish*, which are likewise found in their *Seas*: Amongst others *Tortoises*, whose shels are much esteemed for the beauty, and variety of their colours, there being none found like these, and those of the *Maldives*.

Their Commodities.

They produce likewise *Gold*, *Iron*, *Steel*, *Saffron*, *Wax*, *Cinnamon*, *Long Pepper*, *Ginger*, *Sugar*, with several other *Metals*, *Spices*, *Drugs*, and *Precious Stones*. They fish *Pearls* on their Coasts, and particularly near to *Negros* and *Abujo*.

Its Trade.

But besides the cheapness and abundance of Victuals which these Isles afford, and the *Traffick* which they have so commodiously with *China*, and with *Mexico* or *New Spain*, hath made the *Spaniards* resolve to keep them: And therefore they built some *Fortresses* in 1589 and transported some Families from *New Spain*, with *Horses*, *Sheep*, and other *Beasts* to breed a Race.

The *Chinois* have a great Trade to these Islands, bringing hither all their *Commodities*, as *Silk*, *Cotton* of all colours, *Porcelain*, *Brimstone*, *Cannon Powder*, *Iron*, *Quick-silver*, *Steel*, *Copper*, and other *Metals*; also *Chests*, *Cabinets*, *Pictures*, *Laces*, *Coiffs*, *Vales*, and other curiosities for *Women*. Of all these *Commodities*, there remains a part in the *Philippines*, and the *Castilians* take away the other, and with the *Gold*, *Wax* and *Spices*, which they get in these Isles, carry them to *Mexico*: From whence they bring what is proper, both for the *Philippines*, for *China*, and the *East-Indies*. And this trade which is driven by the South, or *Pacifick Ocean*, is a great, and frequent, as that which is between *Spain* and *Mexico* by the *Ocean*, or *North Sea*.

- The MOLUCCO ISLES; which may be comprehended under the
  - The ISLES of the MOLUCCOES, particularly so called; as the Isles of
    - Ternate, — Gamma-Lamma, Noſtra Sennora dello Roſaria.
    - Tidore, — Marieco, Caſtello Viejo.
    - Timor, — Naſſaw.
    - Machian, — Tabillola, Mauricio.
    - Bachian, — Marigoram, Gammeduoro.
  - The Greateſt ISLES of the MOLUCCOES; as,
    - The Iſle of the CELEBES, — Celebes, Ciaon, Bantachaja, Machaſar.
    - The Iſle of GILOLO, — Gilolo, Tolo, Iſiau, Jaſſougo.
    - The Land of PAPOUS, — Baya Fonds, Baya de Arn-Bra.
  - Small ISLES about and between the Iſles of CELEBES, GILOLO, and the Land of PAPOUS, as
    - On the South of CELEBES, are the Iſles of
      - Buquerones.
      - Solayo.
      - Cobana.
      - Baton.
      - Cabinces.
      - St. Mathews.
      - Flores, — Lataſaja, Batuliar.
      - Suſu.
      - Malva.
      - Cabanaaze, — Timor.
      - Solar, — Adonare.
      - Ombo.
      - Teralta.
    - On the Eaſt, and North-Eaſt of CELEBES, are the Iſles of
      - Wawaay.
      - Xulla.
      - Paugay.
      - Tafouro.
      - Meao.
      - Saranbal.
      - Syem.
    - Between the Iſles of CELEBES and GILOLO, and on the South Coaſt, or Sea of the Land of PAPOUS, are the Iſles of
      - Bouro.
      - Kilan.
      - Manipe.
      - Attaburi.
      - Ouby.
      - Sinomo.
      - Meſol.
      - Seram-Cambello.
      - Amboyna, — Amboyna.
      - Pulorin.
      - Puloway.
      - Celayon.
      - Guligiej.
      - Subiana.
      - Corer.
      - Away.
      - Tenimber.
      - Kedguey.
      - Aru.
      - Banda, — Londor, Ortattan, Comber.
      - Naſſau, — Belgicque, Labetack.
      - Poloway, — Reve.
      - Gumanapy, — Gumanapy.
      - Pulorin.
    - On the North of GILOLO, are the Iſles of
      - Mororay, — Sian.
      - Camaſo,
      - Noba.

- The ISLES of LARRONS, or THEEVES, viz.
  - The ISLES of LARRONS, or THEEVES, particularly ſo called, where are the Iſles of
    - Deſerte.
    - Malabrigo.
    - Engleſe.
    - Angloiſe.
    - Mana.
    - Chemochoa.
    - Gregua.
    - Agan.
    - Artomagan.
    - Guagan.
    - Cheraguan.
    - Natan.
    - Sepan.
    - Matan.
    - Can.
    - Volia.
    - Boraba, and Bacim.
  - ISLES Weſtwards, and between the Iſles of LARRONS and the PHILIPPINE Iſles; as thoſe of
    - Pulo-Vilan.
    - De los Arecifos.
    - De los Mateloces.
    - De Bidima.
  - ISLES Southwards of the Iſles of LARRONS; as thoſe of
    - Dancers.
    - Martyrs.
    - Birds.

THE

THE ISLES OF THE MOLUCCOES.

I Comprehend under the name of the *MOLUCCOES*, not only the Iſles of *TERNATE*, *TIDORE*, *MOTILL* or *TIMOR*, *MACHIAN*, and *BACHIAN*, which are particularly called the *Moluccoes*; but likewiſe thoſe of *GILOLO*, of the Land of *PAPOUS*, which lie on their Eaſt; of *CELEBES*, which are on their Weſt; of them of *CETRAM*, of *FLORES*, and *TIMOR*, which are towards their South, and ſeveral others thereabouts. The Iſles of *Moluccoes* many.

They make a Body of many and divers Iſles, South of the *Philippines*, Eaſtwards of thoſe of the *Sound*, Weſt of *New Guiney*, and North of *Terra Auſtralis*, and are under or near the *Equinoctial Line*, ſtretching themſelves only to the third degree on this ſide that *Line*, and to the 10*th* or 12*th* beyond it, and extending themſelves from Eaſt to Weſt, from the 160*th* degree of *Longitude* unto the 180*th*; and thus they have together 15 degrees of *Latitude* and 20 of *Longitude*, which are almoſt 400 Leagues of breadth and 500 of length. The *Engliſh* were the firſt of any *Chriſtians* that traded hither.

CELEBES, the Lands of *PAPOUS* and *GILOLO* are the greateſt; then *CERAM*, *FLORES*, and *TIMOR*, thoſe which are particularly called the *Moluccoes* are the ſmalleſt, *Celebes* is 200 Leagues long, and about 100 broad: *Gilolo* about 100 Leagues long, and near as broad: *Ceyram*, *Flores*, and *Timor*, each 60 Leagues long; but for the moſt part their breadth is not above a third or quarter of their length. The True *Moluccoes* are only 2, 3, 4, or 5 Leagues long, and 5, 6, 10, 12, and 15 in circuit. The Iſles of *Celebes*, *Gilolo*, &c.

Amongſt all theſe Iſles, the True *Moluccoes* are the moſt known by reaſon of their *Cloves*, with which they abound and furniſh all *Aſia* and *Europe*. They have neither *Grains* nor Mines of *Gold*; few *Beaſts*, much excellent *Fruit*, and ſeveral *Spices*, as *Ginger*, *Cinnamon*, *Mace*, *Nutmegs*, &c. and divers *Drugs*; amongſt others, a kind of *Wood*, that being put to the fire, burns, flames, and yet conſumes not. The *Cloves* are their principal Riches; *Ternate*, *Tidore*, and *Machian* have the moſt, and *Bachian* fewer. *Ternate* yields yearly 400 *Babars* of *Cloves*; *Tidore* and *Machian*, each 300: And in the great Harveſts, which are but once in ſeven years, *Machian* yields 15 or 1600; *Tidore*, 12 or 1300; and *Ternate*, 1000 or 1200; each *Bahar* is 600 *li. Flemiſh*. Their Commodities and Fertility.

Theſe Iſles lie to the Weſtward along the Coaſt of *Gilolo*; ſo near the *Equator*, that the moſt Southerly part is not above 24 or 25 Minutes beyond that *Line*, nor the moſt Northerly above 48 or 50 Minutes on this ſide it; ſo that together they have not above one degree of *Latitude*; and about 10 or 12 Minutes, which maks 30 Leagues. Their *Longitude* is between the 150*th* and 300*th* Minutes of the 168 *Meridian*, or degree of *Longitude*. Their ſituation.

The Isles of *Ternate, Tidore*, &c.

TERNATE is the most North; and from it Southward are, *TIDORE*, *TIMOR*, *MACHIAN*, and *BACHIAN*, for little account is made of the rest. *Bachian* is 15 or 16 Leagues circuit, *Ternate*, *Tidore*, and *Machian*, 10 or 12; *Timor*, 5 or 6. the rest less.

The Isle of *Ternate*, its chief places, fertility and commodities.

TRENATE is esteemed the principal Isle, being about 8 Leagues in circuit, and its Kings the most powerful, both of the True *Moluccoes* and of all that I have passed under the general name of *Moluccoes*; yet he suffers in *Ternate*, *Nostra Seniora della Rosario*, and *Gammalamme* in the hands of the *Spaniards*, *Ta-comma*, *Talucco*, and *Malayo* in the hands of the *Hollanders*, which are in good intelligence with him, as Enemies to the *Spaniards*. The chief place is called *Gamma-Lamma*, is seated on the Sea-side, more long than broad, and of an indifferent bigness; its *Houses*, *Mosques*, as also its *Palace-Royal*, are built of *Canes* or *Timber*; its Road and Haven is good, and frequented by Ships. The Country is not bad, yet it yields but little provision besides *Poultry* and *Goats*; it yields also excellent *Almonds*, and bigger than ordinary, and that in great plenty; they have also abundance of *Cloves*, and other *Spices*, some *Drugs*, with such other Commodities as are found in the rest of the Islands.

The Isle of *Tidore*, and its chief places, &c.

TIDORE, (those of the Country say *Tadura*, which signifies Beauty) is a little greater than *Ternate*, and as fruitful. Here the People are very industrious in pruning and watering the *Clove-trees*, by which means they are exceeding fair and strong. Here grows white *Sandall-wood*, which is held the best in all the *Indies*. Here are also found the *Birds of Paradise*. It hath its particular King. The *Spaniards* hold *Taroula*, *Castello-Viejo*, and *Marieco*, which the *Hollanders* have sometimes taken. *Timor* or *Mothir* was once so ill treated by the *Spaniards*, that its Inhabitants abondoned it and retired to *Gilolo*. The *Hollanders* built the Fort of *Nassau*, and have invited near 2000 of its Inhabitants to return. *Machian* as well as *Timor*, belongs to the King of *Ternate*; the *Hollanders* hold *Taffasso*, *Tallibola*, *Nuhaca* or *Naffaquia*, and *Mauritio*; it is peopled with about 9 or 10000 persons.

The Isle of *Bachian* described.

BACHIAN, or *BAQUIAN*, is the greatest of all the *Moluccoes*, but ill peopled, and having but few *Cloves*; but in recompence it hath plenty of *Fruit*, and its Sea stored with *Fishes*. It is divided by several little Channels scarce navigable, which yet divide it into many parts, of which *Marigoram* is in the midst of the others, where the King of this Isle resides. The *Hollanders* hold on the Coasts the Forts of *Gammeduore* and *Laboua*, both once called *Barnevelt*. This Isle is of an indifferent large extent; the King is absolute, the Soil good, and would become very fertil, if the Inhabitants would leave off their Idleness, and give it Tillage.

MACHIAN is indifferent large and fertil, and well inhabited; its chief places are, 1. *Taffaso*. 2. *Tabillola*. 3. *Mauricio*: and 4. *Nuhaca*.

TIMOR, *Motir* or *MOTIL*, is of a less compass, and Triangular. Its chief place is *Nassaw*.

The Isle of *Gilolo* described.

GILOLO or *BATOCHINE* extends it self to the second *Degree* on this side, and only to the first beyond the *Equator*: It hath then 3 *degrees* of *Latitude*. Its *Longitude* begins a little after the 168*th Meridian*, and reaches to the 172, which are near 4 *Degrees*, which amount to little less than 100 Leagues of length and breadth; but it is composed but of 4 *Peninsula's*, of which one advances towards the North, the other three towards the East; and of these three, the middle one reaches so near the Land of *Papous*, that there is but a Streight between them.

Its People, and chief places.

It is subject in part to the King of *Ternate*, in part to the Kings of *Gilolo* and *Loloda*. It hath *Savage People* on the North part, where is the Coast of *More*, and in some Mountains in the middle of the Country; and the City of *Mamaye* is in form of a *Republick*. The City of *Gilolo* is not above six Leagues from *Ternate* towards the North. Those of *Gilolo*, *Sabugo*, and *Aquilamo*, are near together Eastward of *Tidore*, and on the West Coast of *Gilolo*. On the other side, and towards the East, are the Fortresses of *Tolo*, *Isiau*, and *Jaffougo*; these six places are in the *Spaniards* hands. The *Hollanders* hold *Sabou*

Sabou and *Coma*; *Sabou* a little above *Gilolo*, *Tacoma* or *Cuma* on one of the three Eastern points.

The Air.

The Air of *Gilolo* is intemperate hot, which makes it unhealthful; the Soil not very fertil, yet hath it great plenty of *Rice*, *wild Hens*, and other Fowls. On its Shoars it hath *Shell-fish*, whose Meat in taste is much like *Mutton*, and about the Isle plenty of Trees, which they call by the name of *Sagou*; from which they have a Fruit which they make their Bread of; of the Sap or Juice they make a pleasing Drink, which they use instead of Wine; and of a Hair which grows on its Bark they make their Cloaths. It hath but few *Cloves*, neither have they many Cattle, except *tame* and *wild Hogs*. The People are well proportioned, but rude and savage; some of them *Gentiles*, the rest *Mahometans*.

The Isle of *Celebes* described.

CELEBES is composed of many Islands so near the one to the other, that they are commonly esteemed but one. They are fruitful in all Provisions, especially *Rice*; they yield *Gold*, *Ivory*, *Saunders*, and *Cotton*; feed much Cattle, and their Sea affords plenty of *Fish* and *Pearls*. The Air is healthful, though almost in the same scituation with *Gilolo*, except that they advance to the 6*th* degree of *Latitude* towards the South. They are well peopled, and its People are tall and comly. They are *Idolaters*, and much addicted to *Piracy*. Here is esteemed to be six principal Kingdoms; of which that of *Macasar*, which gives sometimes a name to all these Isles, is the most powerful; that of *Cion* the second; then those of *Sanguin*, *Cauripana*, *Getigan*, and *Supar*. the greatest Cities are *Macasar* and *Bantachia*, 30 or 40 Leagues one from the other; as also *Celebes*, seated on the Sea.

The Land of *Papous*.

The Land of *PAPOUS*, that is, of *Blacks* is little known, yet is no other than *New Guiney*, and other than the Isle of *Ceyram*, though some would confound it with them. This last is to the Westward of it, and the other to the Eastward; both the one and the other more towards the South. There are some *Whites* among its Inhabitants, but few; all lean, deformed, and Traytors. They have *Gold*, *Ambergreece*, and *Birds of Paradise*, with which they pay Tribute to their Kings, and to the King of *Ternate*.

The Isles of *Ceyram, Florets*, &c.

CEYRAM hath the same qualities, and its Inhabitants like to *Papous*, and well peopled. *Flores*, *Solar*, *Malva*, *Susu*, *Timor*, *Ombo*, *Terralta*, &c. are divers Isles under the 8*th*, 9*th*, and 10*th* degrees of South *Latitude*, and which advance from the 160*th* unto the 175*th* degree of *Longitude*. *Timor* (an other than that *Timor* of the *Moluccoes*) is the most esteemed. It produces store of Grains and Fruits, feeds many Cattle and Fowl; amongst its Drugs and Spices, it hath *Ginger*, *Cinnamon*, and whole Forrests of *white* and *yellow Saunders*. Its Inhabitants are Idolaters, half *Savages*, and had the use of Fire but lately. *Malua* on the West of *Timor*, hath quantity of *Pepper*. *Solar* is other than *Soloe*, or *Solayo*. This last is 10 Leagues from *Celebes*, and between the 6*th* and 7*th* degree of *Latitude*; that 15 or 16 Leagues from *Timor*, and between the 8*th* and 9*th* degree of *Latitude*. The City *Adonare* is the residence of the King of *Solor*, and there is a great trade for *Saunders* between this Isle and *Cabanazza* in *Timor*. *Solor* hath likewise *Gold* and *Pearl*.

Almost in the midst of these Isles, which we call in general the *Moluccoes*, are those of *Amboyna* and *Banda*, which are but small, yet are in great esteem. Those of *Amboyna* are, *Amboyna*, *Veranula*, *Hittou*, *Noesan*, and some others.

The Isle of *Amboyna*, its fertility and commodities.

The Isle of *AMBOYNA* hath its chief City of the same name, which is of some considerable note, besides several other small Towns and Villages. This Island was first discovered by the *Portugals*, who had here the command of a Castle and other Forts, which the *Hollanders* took in 1605, and have possessed likewise the Fortress of *Coubella*, *Lovio*, and the Redout of *Hittou*, in the Isle of *Hottou*. The *Spaniards* dispossessed them a little after 1620, and the *Hollanders* have regained them since, where they drive a great and profitable Trade. The Land at first was barren, but by their industry it is now become very fertil, producing *Rice*, *Sugar*, quantity of *Fruits*, especially *Lemmons*

mons and *Oranges*, *Coco-Nuts*, *Bonanas*; several *Spices*, but principally *Cloves*, of which alone they receive great profit. Here it was that the *Hollanders* did once, with a never to be forgotten cruelty and barbarousness, murther the *English* that resided and traded thither, on purpose to gain the whole Trade to themselves.

Its Inhabitants. The Inhabitants were heretofore *Brutish Cannibals*, insomuch as they would eat one another, though their nearest Relations, when age or sickness seised them; and all *Pagans*: but since by reason of the Commerce they had with the *Persians* and *Arabians*, *Mahometism* is somewhat received amongst them, as also *Christianity*, by reason of the *Portugals* and *Dutch*; which in time may come to some perfection, though at present it is but very small. But notwithstanding they make use of their *Paganish* Superstitions, adoring the *Devil*, who appears to them when they invoke him; in which they are very superstitious and ceremonious. They are much given to *Sorcery* and *Conjurations*, very prophane, barbarous, not given to Arts or Literature. They are naturally unfaithful, thievish, covetous, stupid, and very timerous. In their *Marriages* they make no great Ceremonies, taking one anothers words, which as slightly they evade, leaving one another upon the least occasion of offence, and are free for another.

The Isles of *Banda*, *Nera*, and *Gumanapi* described. The Isles of *BANDA* are three principal ones. *Banda*, which communicates its name to the rest, *Nera* and *Gumanapi*, and 3 or 4 lesser ones, *Wayer*, *Poloway*, and *Pulorin*; some add *Poelsetton*, the most Western of all. *Banda* hath the Cities or Towns of *Londor*, *Ortatan*, and *Combor*; *Nera* hath that of *Nera* and *Labetach*; *Gumanapi* hath only one of its name, underneath a Mountain which vomits *Fire*; *Nera* is the chiefest of all. The *Hollanders* hold in the Isle of *Nera* the Forts of *Nassau* and *Belgica*, and in the Isle of *Poloway* the Fort of *Revenge*.

These Isles are unhealthful; the *Nutmegs* and *Mace*, which these Isles produce, make them frequented by Strangers. These Fruits they gather thrice a year, in *April*, *August*, and *December*.

Besides these Isles already spoken of, there are these following which are ranged and numbred with those of the *Moluccoes*, and are found as they lie, either on the Coast or Shoar of the Isles *Celebes*, *Gilolo*, or Land of *Papous*, to participate of their *nature*, *temperature*, *soil*, or the like; which I have taken notice of in the *Geographical Table*.

Its People. The Inhabitants are *Mahometans*, in which they are very zealous and superstitious, not entring into their *Mosques* without washing their Feet; and when they are there, very fervent in their Prayers, which they use often. They are very obstinate, and the Men are much given to idleness, minding their Recreations, and leaving their affairs to their Wives. The People are here observed to live to a great Age. The People of all these Isles, which have passed under the names of *Moluccoes*, are of different humors; those which are on the Coasts most frequented by Strangers, are the most civil; yet others more barbarous. And on the Coast the are either *Mahometans* or *Christians*, the rest *Idolaters*; but the *Spaniards* and *Portugals* on one side, and the *Hollanders* on the other, do much trouble these Islands, making themselves Masters now of one, and then of another; for the most part making War betwixt themselves, or with the Islanders; among which there are divers Kings, some subject to the *Portugals*, and others to the *Hollanders*.

Their Kings. Amongst all these Kings the most powerful is he of *Ternate*, to whom belong *Ternate*, *Mothir*, and *Bachian*; likewise *Cayoa* and *Gazeu*, amongst the True *Moluccoes*; and thereabout, those of *Meao*, where are built his *Carcoles*, that is, *Vessels of War*; *Tafoura*, *Xullo*, *Buro*; those of *Amboyna*, among which *Ceyram* seems to be comprized: Then part of the Land of *Papous*, part of *Gilolo*, and the *Celebes*, whose Kings are tributary to him. *Argensola* saith, That in 70 Islands, which are in his Estates, he can raise 200000 Men; and that he keeps ordinarily a great number of *Carcoles*, with many *Cannons*, and all things necessary; and that the Captains of his Militia are aged Men, which have been bred and educated in Arms.

The

The Isles of LARRONS, or THE EVES.

The Isles of *Larrons* described. WE have almost nothing to say touching the Isles of *THE EVES*. They are 16 or 20 different Isles, which continue from about the 8*th* unto the 20*th* and 21*st* degree of *Latitude* on this side the *Equator*, and are almost all under the 188 *Meridian*. Their names, scituation and greatness, a guess may be given of by the *Chart*.

The Isle of *Dancers*, of *Martyrs*, of *Birds*, &c. Towards the South those of *Pulo Vilan*, *De los Arecifos*, *De los Matelotes*, and *Bidima*, &c. are towards the West, and between the *Larrons* and *Philippines*. The *Volcanis* towards the North, where there is *Cochineal*: *Malpelo* towards the North-East, but indeed rather towards the East, and seeming to belong to *America*. Also the Isles of *Bacim*, *Botaba*, *Volia*, *Can*, *Mata*, *Sepan*, *Natan*, *Chereguan*, *Guagan*, *Artomagan*, *Agan*, *Gregua*, *Chemochoa*, *Mana*, *Englese*, *Angloise*, *Malabrigo Deserte*, &c.

All these Isles are poor, having little to live on; scarce any tame Beasts, no Metals; the Inhabitants are naked, active, great Thieves, particularly of *Iron*.

The

- The ISLES of the SONDE; which may be comprehended under
  - Great ISLES, and particularly called the Isles of the SONDE; and such are those of
    - SUMATRA, with its Kingdoms of
      - Achem, — Achem, Daya.
      - Pacem, — Pedir, Pacem.
      - Aru, — Aru, Bancalis.
      - Baras, — Baras, Batham.
      - Camper, — Camper.
      - Guadahyri, — Guadahyri.
      - Priaman, — Priamán, Potenban.
      - Menancabo, — Menancabo, Batacapas.
      - Jamby, — Jamby, Votaboura.
      - Baras — Baros, Palimbam.
    - BORNEO, — Borneo, Hormatz, Bendermassin.
    - JAVA, with its Kingdoms or Cities of — Bantam, Jacatra, Sura, Japara, Tuban, Jortan, Panarucan, Balambuan, Depresado, Surbaja, Sidajo, Saraboy, Carovang, Materan.
  - Small ISLES; and may be considered as they lie
    - On the Coast of JAVA; among which are those of — Madura, — Madura. Baly, — Bali. Pater Noster. Mulufura. Luboc. Gracioſa. Sapy. Cariman Java. Selam.
    - On the West, and South-West Coast of SUMATRA; as — Engano. Naffau. Good Fortune. Calippes. Nays. Gavia. Oura. Cocos.
    - Between SUMATRA and BORNEO, are those of — Pedra. Bruca. Bitam. Linga. Monpin, — Banca. Billeton. Lucubare. Suronton.
    - On the North-West, North, and North-East Coast of BORNEO; and belonging to it are the Isles of — Tomveta. Timbolan. Ananiba. Matuma. Tigaon. Tiga. Ciumbabon. St. Maria. St. Michael. Zolo. St. John. Boquerano.

- The ISLES of CEYLAN, with its Kingdoms, Cities, and Isles, as they lie
  - North-Easterly, and on the Sea; as, — Jafanapatan. Trimquilemale. Baticalo.
  - Westernly, and on the Sea; as, — Punto Gallo. Colombo. Chilao.
  - Within Land; as, — Jala. Ceitavaca. Candea. Das ſette Corales.
  - Isles about, and close to CEYLAN, as — Manar, — Manar. Grande. Barra de Cardiva.

- The ISLES of the MALDIVES, as they are know bny the Names of the ATTOLLONS of — Tilla don Matis. Milla doſe Madoſe. Padypola. Malos Madou. Ariatollon. Male Atollon. Poulisdou. Molucque. Nillandoux. Collomadous. Adoumathis. Sovadou. Adou, and Pove Molucque.

THE

THE ISLES OF THE SOUND.

THE Isles of the *SOUND* are those of *Sumatra*, *Borneo*, *Java*, the greater and lesser, and others: They are underneath and about the *Equator*, advancing on this side, to the seventh and eighth degree of *Latitude*, towards the North; and beyond it, unto the ninth or tenth degree of South *Latitude*; beginning at 135 *Degrees* of *Longitude*, Westward, and ending about the 160 Eastwards: So that they are together 16 or 18 *Degrees* of *Latitude*, which are 400 and odd Leagues; and 24 or 25 *Degrees* of *Longitude*, which are 600 or thereabouts. The Isles of the *Sound*. Their situation.

The *Portugals* called them the Isles of the *Sound*, because they are to the South of *Malacca*, as *Pyrardus* saith. I believe rather, because of the *Streight* of the *Sound*, which is between the two chief, and best known of these Islands, to wit, *Sumatra* and *Java major*; or else, because of the Port of *Bantam*, which is called of the *Sound*, being the best Port, and of the greatest concourse that is in all these Islands. Their Name.

The Island of *SUMATRA* is 10 or 12 Leagues from the *Peninsula* of *Malacca*, and extends from the sixth *Degree* of *Latitude* on this side, near to the sixth on the other side the *Equator*, which are about 11 or 12 *Degrees* of *Latitude*; but it lying from North-west to South-east, stretches from its Northerly point towards *Achem*, unto that of *Labansamora* towards the South, and on the *Streight* of the *Sound*, near 400 Leagues, being not above 50, 60, or at most 80 broad. The Isle of *Sumatra*, its situation.

Some Authors divide it into 4, others into 10, and others into 30 *Kingdoms*. It is to be believed, that it had sometimes more, sometimes less, or that the least were Vassals or Tributaries to the greatest. At present those most famous are *Achem*, which holds likewise *Pedir*, to which it hath been subject, and *Pacem* on the Northern Coasts towards *India*; *Camper* almost underneath *Palimbam*, *Jamby*, *Guadahyri*, *Priaman*, *Baras*, and *Manancabo*, beyond the *Equator*: All which are the Seats of so many of their Kings. But a word or two of *Achem*, which is of the greatest esteem. Its parts.

The City of *Achem* is seated on the side of a very broad River, and in a large Plain: It hath neither Gates nor Walls to defend it self, but a Castle, which is the Palace Royal, which is fortified with a good Wall and Pallisado, and well armed, and so seated, that it commands the whole City: They enter into this Castle or Palace by seven several Gates, one after another, which are guarded by Women that are expert at their Weapons, which are also the ordinary Guard of the King's Person; and without the leave of the King, or his Guard, none are suffered to enter the Pallisado. The Buildings in this Castle are but mean, which are the same with those of the City, which by reason of the often overflowing of the River, are built upon Piles, and The City of *Achem* described.

covered with *Coco Leaves*, but the furniture which is rich and costly. On two sides of the *Castle*, there are pleasant *Forests*, well stored with *Apes*, *Herns*, and all manner of *Birds*, and other delights, in which the *King* recreates himself; as also in *Cock-fighting*, *Hunting* the *Elephant*, or *Bathing Himself* in the *River*. In all which, he seldom is without a Company of *Women*, in whom he most delighteth. He observes great state, seldom shewing himself; he is much reverenced by his Subjects, whom he uses no better than Slaves: In his *Laws* he is very severe; and in his *Punishment* cruel. His *Government* being absolute and meerly arbitrary. His *Revenue*, without doubt, must be great, by reason of the rich *Commodities* that are found here. He is so powerful, that in 1616 he put to Sea 60000 Men of War, in 200 Ships and 60 Galleys, with store of Cannons and Ammunition, to make War against the *Portugals* in *Malacca*; and he alone drove them from the *Fort* which they had in *Pacem*; and hindred them from taking footing in *Sumatra*.

The Fertility, Commodities, &c. of these Isles.

The *Air*, by reason of the great heats, is very unhealthful, but withal, is very fertile, abounding in *Rice*, *Millet*, *Oyl*, *Beefs*, *Goats*, *Sheep*, *Fowls*, *Fish*, store of *Fruits*; also it is rich in *Gold*, though of a lower alloy, in *Silver*, *Copper*, *Iron*, *Tin*, in *Precious Stones*, in *Silks*, in several *Spices*, as long and common *Pepper*, *Ginger*, *Cinnamon*, *Cloves*, *Nutmegs*,; also in Medicinal *Drugs*, in *Wax*, *Honey*, *Camphire*, *Cassia*, *Bezar*, *Lignum*, *Musk*, *Civet*, *Amber*, *Aloes*, whole *Woods* of *white Sandale*, abundance of *Cotton*, &c.

The *Hollanders* are in good intelligence with the people, and Kings of *Sumatra*; and particularly with him of *Achem*: They have no place or Fortress in the Isle, but at *Jambay*, a Kingdom, City, and River of the same name; in one degree and fifty minutes beyond the *Equator*. They have built on this River, and 25 Leagues from the Coast, a House to accommodate their Traffick with the Islanders: Their Trade is for the most part *Pepper*, which they send from this House to the Sea by *Canoes*. The *Inhabitants* are many of them good Artificers and expert Mariners; they are for the most part *Gentiles*, yet of late *Mahometism* hath crept in amongst them: They are of an Olive colour Complexion, flat-faced, but indifferent well proportioned, and content themselves with a mean habit.

The Isle of *Borneo*, its situation, and fertility.

The Island of *BORNEO*, like to *Sumatra*, is part on this side, and part beyond the *Equator*; but it reaches on this side unto the seventeenth degree of North *Latitude*, and beyond only to the fourth of South *Latitude*. Its Form is almost round, having only 250 Leagues from North to South, and little less from West to East; containing in its Continent more than *Sumatra*, or any other Isle we have knowledge of in *Asia*; but it is not so well inhabited, nor of so great Trade as *Sumatra*, yet more fertile, and besides the same Commodities hath quantity of *Myrabolans*. Its *Forests* are full of Trees, which bear the most excellent *Camphire* in the World, which is uttered in the *Indies*, being too dear to be brought farther: That which comes to us from *China*, is so falsified, and of so little value, in respect of that which comes pure from *Borneo*, that one hundred pounds of the one, is not worth one pound of the other. It hath also plenty of *Provision*. *Borneo*, *Bendarmissin*, *Lave*, and *Hormeta*, are the fairest Cities, or at least the best known of the Isle; for we yet know nothing of the Eastern Coast. *Borneo* is on a *Salt Lake*, or rather at the bottom of a Gulf of the *Sea*, as *Venice* is, and is on the North-West of the Island. Its Houses are built of *Wood*, and upon *Piles*, and are accounted to be 20 or 25000. Through every *Street* runneth a Channel or River of Water; the *Palace* of the *King*, and the *Houses* of the principal *Lords* are of *Stone*, and on the firm Land. *Bendarmassin* and *Lave* are towards the South, regarding the great *Java*, and both belong to the same *King*: They build many *Juncos* at *Bendarmassin*. The River of *Succadan*, and the Neighbouring *Forrests* furnish them easily with *Wood*, and all that is necessary for the building of those *Vessels*. *Lave* is near a River of the same name; and this River, as *Succadan*, yields *Diamonds*. *Hormeta*, is described by the *Hollanders* on the Coast, Westwards of the Isle, and they esteem it to have 2 or 3000 Houses.

The

The Inhabitants are great, of an Olive colour, of a good countenance; their Women brown and chaste, a thing very rare in the Neighbouring Islands. They trade little to distant places, being more inclined to Theft and Piracy, then to Trade; exercising this only with their Neighbours, the others with strangers far off. They are expert in all sorts of Arms, of good Wits, and capable of Arts. Their Apparel is much the same with the *Indians*, which is a Linnen Cloth about their privy Parts, and on their Heads Turbets. In their Religion they are either Mahometants or Gentiles. Its Inhabitants

About *Borneo* are a great quantity of little Isles, *Bonquerano* 3 *Degrees*, *St. John* 4. *Jolo* or *Zolo* 5. *Tagyma* 6. and *Combahan* 8 *Degrees* of *Latitude*: This last is on the North of the Gulph, and City of *Borneo*; near that Gulph is *Pulogitgan*, &c. all these Islands belong to the King or Kings of *Borneo*. Several small Isles.

The two Islands of *JAVA Major* and *Minor* are to the South of *Borneo*: however there is much dispute about the seat of the little one, the greater lies from the sixth, unto the eighth, ninth, or tenth *Degree* of South *Latitude*, for we know not its certain breadth: And from the 145 *Meridian* beyond the 155, this length being 250 Leagues, and its breadth little less. We have scarce knowledge of any but the North-coast of this Island, none at all of its Southern. Isles of *Java Major* and *Minor*, their situation, length, and breadth.

Along the North-Coast of *Bantam*, where is one of the greatest Trades of all the *East-Indies*, and where the Merchants of the *East-India* Company of *England* have their residence, and where once there was a like Company for the *Hollanders*, which they have transported to *Jacatra* or *Batavia*. *Bantam* is at the foot of a Hill, from which descend three Rivers; of which one passes through the middle, the others long, and on the two sides of the City, communicating by divers Channels, convenient for the *Mahometans*, who believe themselves purged from their sins, as often as they wash, but all too shallow for Ships to sail in; the Walls of the City are of Brick of no great strength, as also are their Gates, which makes them have the greater care in guarding them: The City is indifferent great; yet have they but three principal Streets, and these all but upon the Castle; at every corner of the Streets there stands a guard, and at Sunset they make fast all passage Boats, so that in the night there is no stirring in the Streets. The Houses are but meanly built, either of Reeds or Straw, and covered with *Coco* leaves; but for preservation of Goods, they have Storehouses made of Stone; they have several places or Markets for the sale of Commodities, as also an Exchange where Merchants meet. The City of *Bantam* described, with its great trade.

The Commodities of *Bantam* are these of the Isle, as all sorts of *Druggs*; *Pepper*, *Sugar*, *Preserved Ginger*, and all sorts of *Sweet-meats*, both wet and dry; *Rice*, *Honey*, &c. Its Commodities.

Also in this City is found several good Commodities, which are the product of other places, which are here had at easie rates, *viz.* *Spices*, *precious Stones*, *Ammunition*, *Sandal-wood*. *Silk* both raw and wrought into several *Fabricks*, as *Velvets*, *Sattins*, *Damask*, *Cabinets*, *Lacque*, *Porcelain*, *Callicoes*, *Frankinsence*, *Camphora*, *Benjamine*, &c.

It is governed by a Supream or Sovereign Prince, whom they entitle the *Mattaran*, and hath four Deputies or Tetrarchs his Subordinates. It is very well peopled; the Houses of persons of quality are better built then the rest, having square Courts at their entrance, and commonly there is a *Mosque* belonging to every one of them, as also a Cistern to wash themselves in. The Palace is indifferently well built, shewing some kind of State; here the *Chinesses* (who are great traders to this City, bring in most of the Commodities except *Pepper*, *Cotton*, *Wool*, and *Rice*) have a place of meeting for their worship.

Fifteen or twenty Leagues from *Bantam* is *Jacatra*, now *Batavia*, since the *Hollanders* have builded this on the ruins of the other, where they had a fair *Magazine*: The King of *Jacatra* assisted by some *English*, besieged it about the year 1618. the *Hollanders* defended themselves till *March* 1619. that their General *Koen* returning from the *Moluccoes* raised the The Cities of *Jacatra*,

siege; took and ruined *Jacatra*, and rebuilt *Batavia*, with a very good Cittadel: This place is at present the Seat or Court of the General and Councellors of the *East-India* Company, for the *United Provinces*.

Japara. Continuing along the Coast, and 100 or 120 Leagues from *Batavia* is *JAPARA*, a City and Kingdom with a good Port, and a fair River. *TUBAN* 20 or 25 Leagues from *Japara*, likewise a City and Kingdom, and

Jortan. Gulph: Fifty Leagues farther is the City, River, and Port of *Jortan*, which is of great concourse, for those that go or return from *Bantam* to the *Moluccoes*, and from the *Moluccoes* to *Bantam*; *Passaruam* is 20 Leagues from *Jortan*, and *Panarucan* yet 8 Leagues farther: This makes the most Easterly

Passaruam. point of *Java Major*: *Balambuan* is 12 or 15 Leagues from *Panarucan*, inclining towards the South. All these Cities have each their Kings. *Balam-*

Balambuam. *buan* regards the Isle of *Baly*, and the streight that is between them, takes its name from *Balambuan* as the most famous. Many *Portugals* remained at *Panarucan* to facilitate the Commerce they had of the *Moluccoes*, of *Amboyna*, *Banda*, *Timor*, &c. with *Malacca*, or those places they possess on this side, *Panarucan* being in the way between. Near this City a Sulphurous Mountain cast forth such great quantity of Stones and Cinders in 1588, that 10000 persons were stifled.

In the midst of the Isle of *JAVA*, and towards the South Coast is the City

Maderan described. of *Maderan* or *Materan*, the residence of the most powerful King of *Java*: This City is 100 Leagues from *Bantam*, 100 or 120 from *Balambuan*, and only 35 or 40 from *Japara*. This King once commanded the whole Isle; he yet commands those Kings which are in the High-land, and on the South Coast: Those on this side have freed themselves from his Rule, rendring him only certain Duties, yet some places he holds on this Coast.

The Isle of Java Minor. We have no certain knowledge of *JAVA Minor*, if we do not esteem it to be those Isles to the East of *Java Major*, and whose Northern Coast we only know. *Mark Paul* of *Venice*, who made the first Relation, saith that it contained 2000 Leagues Circuit, which would be more then our great *Java*, as we know it at present; he saith it had eight Kingdoms, of which he had seen six; gives to the soil the same qualities with the great one; but that its Inhabitants were more savage, and some Man-eaters: we shall presently speak a word or two of both *Java's*.

The Isles of Baly and Madura. On the East of *Java* is *BALY* Isle, which hath not above 40 Leagues Circuit, yet is peopled with 600 thousand Souls, hath its particular King, rich, and magnificent. *Madura* Isle on the North-East of *Jortan* in the *Java Major*, is likewise full of people; Its Cities are very fair; hath its particular King; its people are wicked and perfidious.

Its People. The people of all these Isles are *Mahometans* on the Coast, up in the Country great Idolaters; and some Man-eaters. They have many Kings, and have hitherto been able to hinder the *Spaniards*, *Portugals*, and *Hollanders*, from building on their Coasts; yet these last have lately got *Batavia*, which they bravely maintain.

The people are corpulent, of a middle stature, broad-faced, little eyes; they wear long hair, of a Chestnut complexion; they are addicted naturally to theft, stout and couragious, very malicous when angred, very proud, deceitful, and great lyars; their cloathing is as the other *Indians*, that is, only a piece of cloth tied about their privy parts. Yet some exceed, whereas others go quite naked. They yet retain divers barbarous Customs and Ceremonies, as well in matters of Religion as otherwise. Their weapons are the Bow and Arrows, the Dart, the Lance, and Shield, and Crizes, a strange and cruel weapon.

Its Fertility. The Country or Islands are very fertile, affording very many rich Commodities, as hath been spoken of already, which are all very excellent; they have several sorts of both tame and wild Beasts, abundance of Fowls and Fishes, among the rest Oysters, which if *Mandelsloe* may be credited, weigheth 300 pound weight; among their Serpents they have *Crocodiles* very large; and for their Fruits, they may compare with most places, as well for the fairness, pleasant tastes, as for the great variety of them. This

Isle is much troubled at some part of the year with dreadful Thundrings and Lightnings.

Let us now make a short observation on the one and the other *Java*, and the neighbouring Isles and Countries, according as *Mark Paul* of *Venice* hath described them. It seems that his *great Java* must be the Isle of *Borneo*, his Isles *Sondor* and *Condor* must be *Pulo Londor*, his Province of *Beach*, the *Peninsula* of *Malacca*, his Isle *Patan*, that of *Sumatra*, and his *Java minor* our present *Java major*: And it is to be believed that *Borneo*, *Sumatra*, and *Java* are likewise the three *Sindes* of *Ptolomy*.

The Isles of CEYLAN, *and the* MALDIVES.

The Isles of Ceylan, and the Maldives. NOt far from the Cape of *Comori* are the Isles of *CEYLAN* on one side, and the *MALDIVES* on the other. *Ceylan*, 60 Leagues towards the East; and the *Maldives* 150 between the East and the South.

Ceylan, its situation and extent. *CEYLAN* is the *Trapobane* of the Ancients, though *Ptolomy* makes it unmeasurably greater then *Ceylan* is now found. Its scituation is on this side the *Ganges*, and near *Cape Comori*, of old *Comaria Extrema*; likewise near *Cape de Cael*, of old *Cori* or *Caligicum promont.* and on the streight of *Manar* or *Quilao*, of old *Argaricus Sinus*, near which, or a little farther, is the Land of *Madura*, of old *Madura Regia Pandionis*, and divers other particulars making sufficient proof.

The *Indians* name it *Teneraſin*, that is, the Land of *Delights*; the *Arabs Zeilan Dive*, that is the Isle of *Ceylan*. It extends it self from 6 to 10 *Degrees* of *Latitude*, and so comprehends four whole *Degrees*, which makes 100 Leagues from South to North: It hath but two *Degrees* and a half, or little more of *Longitude*, which amounts to sixty and odd Leagues from East to West: The whole Circuit is about 300 Leagues; its form is almost Oval, or rather like a Pearl or Pear, whose tail is North, and its head South.

Its parts. Some place in this Isle 7 Kingdoms, others 9, and others more; that of *Jafanapatan* is the most Northerly; those of *Trinquilemale*, and *Baticalo* are the most Easterly; those of *Chilao* and *Colombo* the most Westerly; and that of *Jaba* the most Southward; those of *Candea*, of *Sette Coralles*, and *Ceitavaca*, hold the middle. *Candea* is at present the most famous; those of *Colombo* and *Ceitavaca* have sometimes been the residence of Kings, which have commanded all the Island.

The Portugals here inhabit. At present the *Portugals* hold *Colombo*, *Chilao*, *Manar* Isle and Fortress, *Jafanapatan*, and some other places on the Coast, which regard the streight of *Chilao* and *Manar*. *Columbo* and *Chilao* are not above 60 Leagues, or little more, from *Cape Comori*, *Manar* 25 or 30 Leagues from *Cape de Cael*, and *Jafanapatan* 15 or 20 from the *Cape* of *Negapatan*.

The best Ports of this Isle are those of *Gallo*, *Columbo*, and *Chilao*: That of *Galla* is one of the best known of all *India*; because all that come, or go, are constrained to make the point of *Gallo*, for fear of falling on the Banks of the *Maldives*: Some years past the *Hollanders* took this important place from the *Portugals*.

Its Air, Fertility, and Commodities. The Air is so temperate, and the Land so fruitful, that some esteem it the Earthly Paradise. Its Fruit, Herbs, and Plants have a marvellous pleasant odor; its *Cinnamon* is the best in the World, and particularly towards *Colombo* and *Ceitavaca*, there is found much *Cardamom*, *Areca*, *Nutmegs*, *Pepper* and other Spices, and several Druggs, also *Lignum Aquilæ*, *Lignum Serpentis*, *Gold*, *Silver*, *Brass*, *Iron* and other Metals; though the Mines are not wrought; many precious Stones, among others those which the *Portugals* call *Cats-eyes*; they have no *Diamonds*, but many *Pearls*, which they fish for in the streight between this Island and the Continent. The Soil produces Corn, Oyl, Wine, Cotton, abundance of *Rice*, several roots for Diers. Among

mong their Beasts their *Elephants* are so excellent, and so docile, that those of other places bear honour to them as to their Superiours. They have great plenty of Fowls, Cattle; and their Rivers yield great store of Fish.

As concerning the Coyns, Weights, and Measures of the Isles of *Ceyland*, and the *Maldives*, I have no certain account thereof, wherefore I omit them.

The Inhabitants. The Islanders are generally great, black, deformed, having their Ears long, and their Nostrils large, for the rest well disposed and active, great Dancers, insomuch that they may furnish all *India* with Comedians and Juglers; they are rich, and smother themselves in delights, all things agreeing to it, yet are they inclined to War. In those places possessed by the *Portugals* are many Christians, the rest Idolaters or Mahometans.

The MALDIVES.

The Isles of the *Maldives*, their situation, and parts or *Attollons*. THE *MALDIVES* take their name from *Male* the chief City of these Islands, and *Dive* which signifies an Island; they are an infinite number of very little Islands, all seated in the *Indian* Ocean, on this side *Cape Comori*, beginning at the eighth *Degree* of Northern *Latitude*, and not ending till the third or fourth of the South, the *Equinoctial Line* passing over them, so that they extend in length 300 Leagues, in breadth not above 15, 20 or little more.

They are divided into thirteen *Attollons*, separated the one from the other by certain Channels, and containing each a great number of little Isles: From hence the King of *Maldives* terms himself King of 13 Provinces, and 12000 Isles; though there be many less, and the most of them desart, and which the Sea covers when it is high.

The disposition of these *Attollons* is admirable; then their Banks, their Entrances, their Currents; the *Attollons* are almost round, or Oval; each having 30,40, or 50 Leagues circuit; and succeeding one another from North, North-west, to South, South-east, there resting between them but certain Currents, large, little or more, but all dangerous.

These *Attollons* are each encompassed with a great bank of stones, there being no human Art could better wall a place, then these banks do their *Attollons*, the Sea breaking its waves against the banks, and within the *Attollons* there being a perfect calm, and but little depth of water. The entrances are certain open places of 40, 50, some of 100, 200 common paces, which the Author of Nature hath given to every *Attollon*; that is four to each, to facilitate their passage from one *Attolion* to another; for the Currents which are between the Channels, being carried six Months to the East, and six Months to the West; it was impossible to pass from one *Attollon* to another, if there were but two openings, one opposite to another. These Currents moreover are so rapid, that when it is calm, and when the wind goes with them, they carry a Vessel sometimes to *Malabar* and *Ceylan*, and sometimes to *Sumatra*, without possibility of stopping of it; and on the other side, even to *Arabia* and *Africa*.

The names and order of these *Attollons* descending from North to South, are *Tilladou Matis*, that is the high point, and by the *Spaniards*, *Cabeza das Ilhas*, head of the Islands; then *Milla doue*, *Madoue*, *Padypola*, *Malos*: *Caridon*, *Ariatollon*, *Male Attollon*, where is the Isle of *Male Pouliſdou*, *Moluque*, *Nillandoux*, *Collomadoux*, *Adoumatis*, *Souadou*; *Addou* and *Poue Moluque*, the two last being esteemed but one.

The largest Channels, and there where the Currents are the strongest, are those of *Malos*, *Madoue*, *Caridon*, *Aldou*, and *Sovadou*. *Francis Pirard* a great Traveller was shipwrackt on the first, and remained five years in the *Maldives*, where at leasure he learned the tongue, situation, and manners of the Inhabitants, and hath set out a publick description of every particular.

The

The King of these Isles resides in the Isle of *Male*, which is one of the greatest, though not above a League and a half in Circuit: It is one of the most fruitful, and seated in the middle of the *Longitude* of three Islands. Strangers frequent it, because of the Court. There are no Cities through all, their disposition being sufficiently commodious; their situation denotes a great heat; yet the days being equal to the nights, and the nights subject to great Dews, they refresh the Earth; so their Summers are without rain, and their Winters without ice; but these pouring down rain with a constant West South-west wind, the Feaver among the *Maldives* is very common, and dangerous to Strangers, whom it often kills in few days.

Provision very plentiful. There grows neither *Rice* nor *Wheat*; yet are Provisions better cheap than in the rest of the *Indies*. They have *Rice* from the Continent, and gather at home *Millet* in abundance, and the Grain of *Bunbi*, like to *Millet*, but black. They have much *Fruit*, *Citrons*, *Pomegranates*, *Oranges*, *Bananes*; and above all, so great abundance of that *Nut* of *India*, called *Cocos*, that no Country in the World hath so much. All the *Levant* is furnished hence, lading every year several Ships. They have many *Animals*, little *Beef* or *Mutton*; no *Dogs*, for they abhor them: Quantity of *Fish*.

Shells pass instead of Money. They have many little Shells, which pass in many places for Money, and they lade yearly 30 or 40 Ships with these Shells for *Bengala* only, besides what they lade for other parts. Their *Tortoise Shells* are much esteemed at *Cambaya*, because they are smooth, black, and well figured; with which they make *Combs*, *Cases* of *Looking-glasses*, &c. Their *Tavarcarre* or *Cocos*, particularly of the *Maldives*, is very Medicinal, and of greater value then their *Amber-greece*, and their black *Coral*. The King alone is to have this *Tavarcarre* and *Amber-greece*, not permitting his Subjects to trade in it.

There is brought to the *Maldives*, in exchange of their Commodities, *Rice*, *Cloth*, *Silk*, *Cotton*, *Oyl*, *Areca*, *Iron*, *Steel*, *Spices*, *Porcelain*, *Gold* and *Silver*, which come not thence again. Its *Inhabitants* make use of all sorts of *Arms*, yet their King is neither rich, nor powerful, except in his Isles, and in regard of his own Subjects.

The *Coco-Nut* and *Tree* of great use for several things. Amongst the rarities of this Isle, their *Candou* and their *Coco*'s are observable. They make Planks of the Wood of *Candou*, with which they draw out of the Sea all sorts of weights, though of 10000 pound. Their Tree is as great as our *Walnut-Tree*, leaved like the *Aspin*, and as white, but very soft: It bears no Fruit; they make Fisher-boats of it, and with rubbing two pieces of this wood together, kindle fire as we do with a Flint and Steel; yet it neither burns nor consumes.

As for the *Coco*'s or *Walnut* of *India*, it furnishes them with all things necessary for mans life; they extract from it *Wine*, *Honey*, *Sugar*, *Milk*, *Oyl*, and *Butter*. Its Kernels they eat instead of Bread, with all sorts of Meat; the Leaf being green, serves for Paper to write; being dry, they fold it in little Bands, and make *Panniers*, *Dossers*, *Umbrello's*, *Hats*, *Coverlids*, and *Carpets*; the Sprig which is the middle of the Leaf, being dry, hardneth, and of it they make *Cabinets*, *Chests*, and other Moveables; of the Shell, which incloses the Fruit, they make *Ladles*, *Spoons*, *Plates*, *Cups*, &c. They may build a whole House out of these Trees; the Trunk may serve for Beams and Joynts; the Branches cut in two or three for Pails, to pail in Gardens or Houses, and for Laths to cover them; and the Leaves sewed together and disposed in ranks upon those Laths, cast off the Water as well as our Tiles. They build likewise many Ships only out of the *Coco-Tree*; the *Keel*, *Sides*, *Planks*, *Pins*, *Hatches*, *Masts* and *Yards*, *Cordage*, *Anchors*, *Sails*, and even all the Utensils of a Ship, are taken from this *Tree*; and sometimes their Lading, whether for Provision or Moveables, or to furnish Rigging for other Ships, is likewise taken out of this *Tree* alone.

And so much for the *Eastern Isles* and all *Asia*.

AFRICA

AFRICA.

- AFRICA, or LIBYA,
  - Exterior or Outward, and comprehendeth
    - BARBARY, which containeth the Kingdoms of
      - Morocco, — Morocco.
      - Fez, — Fez, Sala.
      - Telenſin, — Telenſin.
      - Algier, — Algier, Bugia.
      - Tunis, — Tunis.
      - Tripoli, — Tripolis.
      - Barca, — Barca.
      - Deſart of Barca, — Ammon.
    - BILIDULGERID, which containeth ſeveral Kingdoms and Provinces, the chief of which are,
      - Sus, or Teffet, — Teffet.
      - Darha, — Darha.
      - Segellomeſſa, — Segellomeſſa.
      - Tafilet, — Tafilet.
      - Tegorarin, — Tegorarin.
      - Zeb, — Neſta.
      - Bilidulgerid, — Fezzen, Gademes.
    - EGYPT, which is divided in
      - Sayd, or Bechria, — Cairo.
      - Errif, — Alexandria, Roſetta.
      - Coaſt of the Red Sea, — Sues, Grodol.
  - Interiour, or Inwards, and comprehendeth
    - ZAARA, or SAARA, where are the Kingdoms and Cities of
      - Zaahaga, — Tegaſſa.
      - Zuenziga, — Zuenziga.
      - Targa, — Targa.
      - Lempta, — Lempta.
      - Berdoa, — Berdoa.
      - Gioga, — Geaga.
      - Borno, — Borno.
    - The Land of NEGROES, where are the Kingdoms, People or Countries
      - On this ſide the Niger, as of
        - Gualate, — Gandia.
        - Genehoa, — Genehoa.
        - Tombur, — Tombotu.
        - Agades, — Agades.
        - Canun, — Cano.
        - Caſſena, — Caſſena.
        - Gangara, — Gangara.
      - Between the branches of the Niger, as of
        - The Jaloſes People, — Solul.
        - The Biatares People, — Biatares.
        - The Souſes People, — Beria.
      - Beyond the Niger, as of
        - Melli, — Melli.
        - Mandinga, — Mandinga.
        - Gago, — Gago.
        - Guber, — Guber.
        - Zegzeg, — Zegzeg.
        - Zanfara, — Zanfara.
    - GUINEE, with its Kingdoms, Parts, and chief Places of
      - M[illegible] — Bugos.
      - P[illegible] Guinee, or the — St. George de la Mina, Cape of Palmes.
      - P[illegible] — Benin.
- ÆTHIOPIA,
  - Higher, or under Egypt, and comprehendeth
    - NUBIA, where are the Kingdoms, Countries, and Cities of
      - [illegible] — Bugia.
      - [illegible] — Jalac.
      - [illegible] — Nuabia.
      - [illegible] — Dancala.
      - [illegible] — Cuſa.
      - G[illegible] — Gorham.
      - D[illegible] — Damocla.
      - So[illegible] — Somna.
    - The Empire of the ABISSINES, where are ſeveral Kingdoms, Countries, and Cities; the chief of which are,
      - Tigremahon, — Chaxumo.
      - Barnagaſſo, — Barva.
      - Angota, — Angotina.
      - Dancala, — Degibeldara.
      - Amara, — Amara.
      - Bagamedri, — [illegible]a.
      - Ambian, — [illegible]ſen.
      - Damute, — Damute.
      - Agag, — Agag.
      - Cafates, — Cafates.
      - Narea, — Zeb.
      - Ambiam, — Ambiam.
    - BARBARY, or ZANGUEBAR, which is divided into
      - Zanguebar, with its Kingdoms and Cities of — Mozambique, Quiloa, Quilmanca.
      - The Coaſt of AJAN, with its Kingdoms and Cities of — Adea, Adel, Magadoxo.
      - The Coaſt of ABEX, with its chief Places and Iſles of — Arquico, Suaquen.
  - Lower, or Interiour, and comprehendeth
    - CONGO, with its ſeveral Kingdoms or Provinces; the chief of which are,
      - Loango, — Loango.
      - Pemba, — Pemba.
      - Angola, — Engaze.
      - Bamba, — Bamba.
      - Songo, — Sonho.
    - The Coaſt and Country of CAFRES, with its ſeveral Eſtates, Kingdoms, Capes, Ports, and Iſles; the chief of which are the
      - Cape of Good Hope,
      - Cape of St. Nicholas,
      - Port of Carafcalis,
      - Iſles of St. Chriſtophers,
      - Iſles of St. Lucia.
    - MONOMOTAPA, with its Kingdoms and chief Places of
      - Monomotapa, — Monomotapa.
      - Butua, — Butua.
      - Monoemugi, — Agag.
      - Zefala, — Z[illegible]
      - Chicanga, — Zir[illegible]
- In divers ISLES
  - In the Mediterranean Sea, — Malta, — Valet[illegible]
  - In the Weſtern Ocean, as the
    - Canary Iſles, — Canaria.
    - The Iſles of Cape Verd, — St. Jag[illegible]
    - The Iſle of St. Thomas, — Pavoaſaa.
  - In the Eaſtern Ocean, as
    - Madagaſcar, — Vingagora.
    - Zocotora, — Zocotora.

Its Bounds.

Its Name.

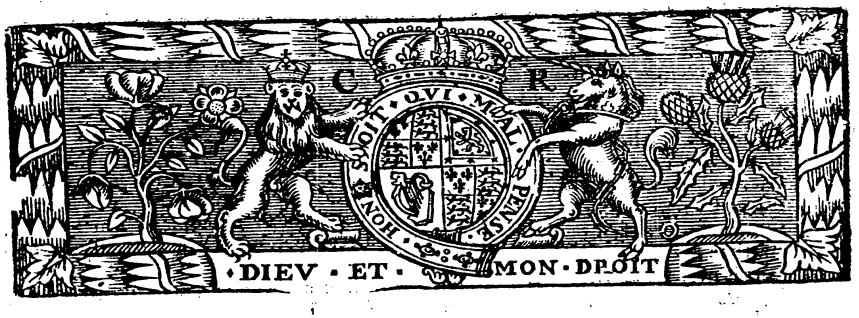
Its Form and Promontories.

Its length and breadth.


A New MAPP of
AFRICA
Desigued by Mounsr Sanson, Geo
to the French King. Rendered
English and Illustrated with
Br Richard Blome By the K
Especiall Command
OCCI
MEDI
TERANIAN
SEA
ASIA
AN
NATOLIA
ARCHI
PEL
GRECE
Sardaigne
Streight of Gibralter
Isles Azores
Canare Isles
Moroco
Fes
Tunis
Telensin
Algier
Zanhaga
Zuenziga
Targa
Gualata
Tombut
Guene
hoa
PAYS
Agades
Cano
Caffena
Gangara
DESERT
Mandin
gue
Melli
Souco
Maleguete
Guinee
Benin
Biafara
Zanfara
Zegzeg
Gago
Guber
Barca
Berdoa
Lempta
Gaoga
Bugie
Jalac
Danca
lay
Nubia
Cufa
Tigre
Gorliam
mahon
Barra
gas
Canfila
Dancali
Xoa
Ximen
Ambi
ancantiva
Beleguanze
Vangue
Anzic ins
Golfe of
St Thomas
SEA of GUINEE
Equinoctial Line
SEA
of
CONGO
Loanga
Sunda
Con=
go
Pamba
Bamba
Angola
Benguela
Matamán
Baso Desertum
Cabo delgado
Dambea
Goyame
Cafa
Narea
Monoemugi
Butua
Galles
Monoemugi
Mozambique
Sofala
Mada
gascar or
Laurens
the Isle S
Terra del
Gada
Mana
Pontaman
Mutatana
Monapatan
Inhaca
Maiba
Arabisha
Manatonya
Anambolo
Antipera
Zumbas
Buro
Senc
Zambro
Degue
Mancha
Boene
Mamica
Quitscua
Hagala
Amara
Gebighe
Calburai
Basat
Kalsa
Armeta
Doldel
Bera
Augesa
Zet
Tacua
Maraima
Gorava
Nova
Gorat
Gemena
Tagoa
Angola
Barra
Quara
Fangi
Gorga
Cafater
Gavi
Gasabeta
Heir
Magobo
Falacia
Delsan
Bagametro
Leuma
Armeta
Camba
Mangal
Beif
Buono
Banco
Mamica
Boene

AFRI
as it is
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AFR



AFRICA.



FRICA is a *Peninſula* ſo great, that it makes the Third and moſt Meridional part of our Continent. It approaches ſo near to *Spain*, that only the Streight of *Gibraltar* divides them; and touches ſo little upon *Aſia*, that only an *Iſthmus* of 30 or 40 Leagues, between the *Red Sea* and the *Mediterranean*, joyns them together.

Its Bounds.

Beſides this *Iſthmus*, *Africa* is bounded on all ſides by the Sea, as appears by the Map. The *Latins* called it moſt commonly *Africa*, and the *Greeks*, *Libya*; yet both the one and the other are indifferently found in the Authors of the one and the other Tongue. The firſt was given by one *Afer*, deſcending from *Abraham* and *Kethura*; others ſay, of one *Afer*, Son of the *Libyan Hercules*; or (according to the *Greeks*) it is taken from Ἄφρυ φρίκης, that is, *Sine Frigore*, becauſe (according to its ſituation) it muſt be without Cold. According to the *Arabs* the name ſhould be taken from *Ifriquia*, that is, *Divided*; becauſe were it not for that *Iſthmus* which joyns it to *Aſia*, it were quite divided from our Continent. According to the *Punick* Tongue it ſignifies the Land of *Corn*, for the abundance of *Grains* gathered in that particular part called *Africa*.

Its Name.

The name of *Libya*, is taken either from *Libya*, the Daughter of *Epaphus*, the Son of *Jupiter*; or from *Libya*, one of the three Lakes which deſcend into the River *Triton*; or from λίβος, which in the ancient *Greek* Idiom ſignifies *Black*, becauſe its Inhabitants are Black; or from *Lub*, which among the *Arabs* ſignifies Thirſt, becauſe a good part of the Country wants Water. But theſe Hiſtories, Fables, and Etymologies, are taken from divers Authors of divers Tongues; and for different Reaſons there may be new ones found or made, to content thoſe which are covetous of them.

The Form of *Africa* is near Triangular, yet it advances four *Promontories* to the four principal places of the World. *Cape Bona*, towards the North; the *Cape of Good Hope*, towards the South; *Cape Guard a Fuy*, towards the the Eaſt; and *Cape Verd*, towards the Weſt: the three laſt are on the Ocean, and the firſt on the *Mediterranean* Sea.

Its Form and Promontories.

Its length, taken from *Cape Verd* to *Cape Guard a Fuy*, is about 2000 Leagues. Its breadth, from *Cape Bona* to that of *Good Hope*, is about 1800 Leagues; but

Its length and breadth.

but both its length and breadth, are found much leſs in all other places.

Its Scituation. Its ſcituation is under or about the *Torrid Zone*; the *Equinoctial Line* paſſing over it, and cutting it in two, though unequal parts. The moſt part of *Africa* is between the two *Tropicks*, which it out paſſes 11½ Degrees, and and 15 Degrees on one and the other ſide, to wit, 11½ Degrees beyond the Tropick of *Capricorn*, and 15 on this ſide that of *Cancer*.

How Inhabited. It is every where inhabited, though not ſo well as *Europe* or *Aſia*; whether by reaſon of the inſupportable Heats which reign there, or becauſe it hath many Countries dry and without Water; or becauſe it hath others, where there is much *Sand* eaſily removed by the Wind, often burying Men in it; or by reaſon of the great number of venemous, fierce, and cruel Beaſts, which are found through the whole; or becauſe they ſell and tranſport one another for Slaves, I leave to judge.

It is moreover obſervable, that it is freſher and cooler under and about the *Equator*, than under and about the *Tropicks*. The reaſon is, becauſe the *Sun* makes two Summers and two Winters, under and near the *Equator*; and that the Nights are equal to the Days, which is a great refreſhment.

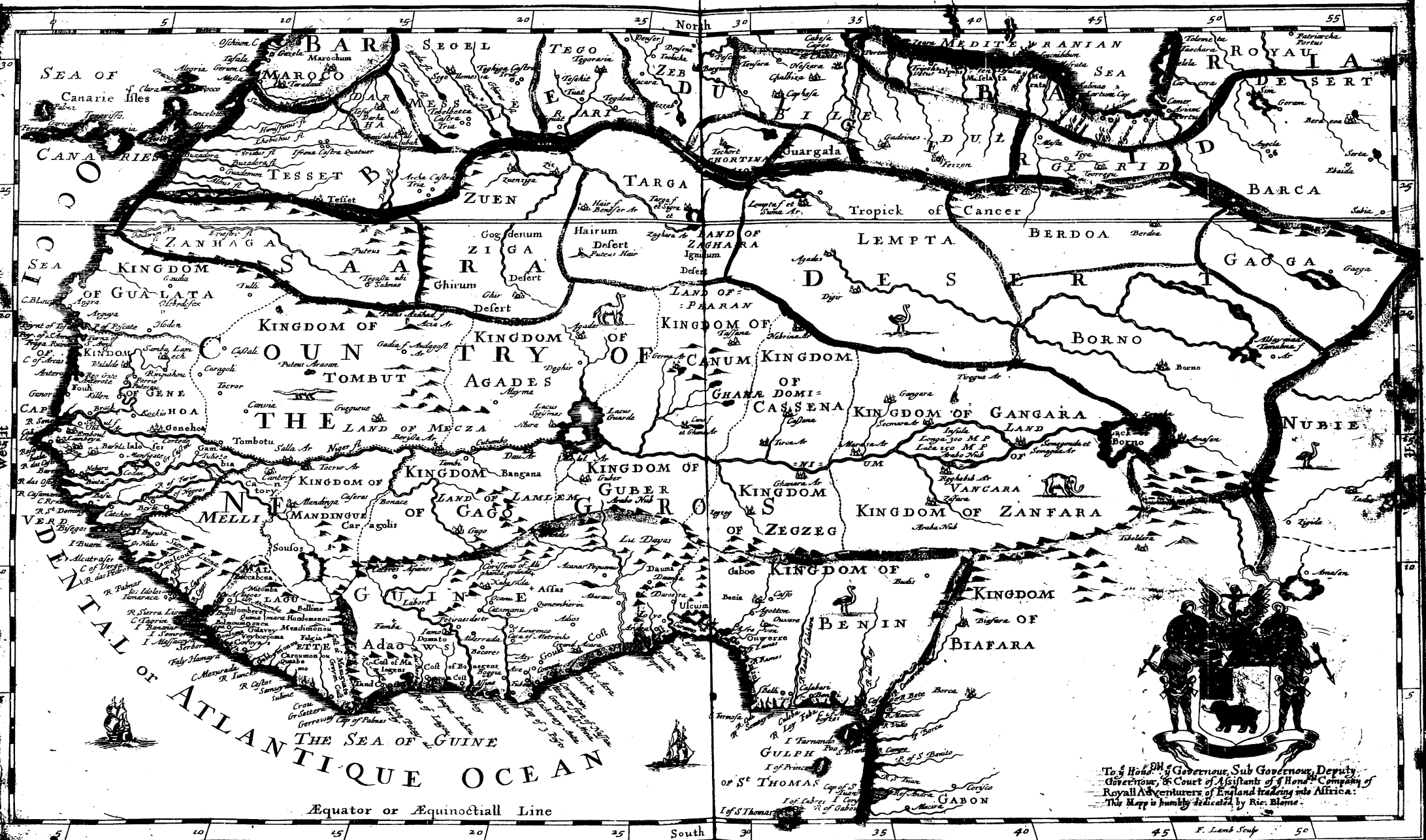
Its Diviſion. Divers Authors divide *Africa* in a very different manner; yet moſt agree to make firſt the Diviſion into two great parts, calling that *Oriental* which is on the Eaſt of the *Nile*, and that *Occidental* which is on the Weſt; others by the *Equator*, calling it *Northern* on this ſide, and *Southern* on the other ſide the *Equator*: Others by the *Colours* of the People, obſerving that on this ſide the Tropick of *Cancer* they are *white*, and beyond it *black*. But all theſe Diviſions have many faults, to avoid which, and to make our Diviſion of *Africa* into two great Parts, agree with that of ancient Authors, and with the diſpoſition in which the Country is now found, I draw a Line from the Gulph of St. *Thomas* unto the extremity of *Egypt*, on the *Red Sea*. This Line carried along, where the Eſtates are diſtinguiſhed one from the other, divides *Africa* into two equal parts, cuts no Eſtate in two; and that which is on this ſide is called by the Ancients, and by the Modern more preciſely, *Africa* or *Libya*; that which is beyond this, is called both by the one and the other *Ethiopia*.

This firſt Diviſion will facilitate thoſe of the other parts, dividing *Africa* or *Libya* into two, and *Ethiopia* likewiſe into two; *Africa* or *Libya* into the higher and farther, in regard of us; and exteriour and interiour in regard of thoſe of the Country. *Ethiopia* into high and low, according to the Moderns, or into *Ethiopia* under *Egypt*, and *Ethiopia* Interiour, according to the Ancients.

Its Parts, and their bounds. In the Higher and Exteriour *Africa* or *Libya* we have *Barbary*, *Billedulgerid*, and *Egypt*: In the Farther and Interiour *Africa* and *Libya*, *Saara* or *Deſart*, the Country of the *Negroes* and *Guinny*. In the Higher *Ethiopia*, or under *Egypt*, are *Nubia*, *Abiſſina*, and *Zanguebar*: In the Lower or Interiour *Ethiopia*, *Congo*, the *Mono-Motapa*, and the *Cafres*.

Barbary extends it ſelf along the *Mediterranean Sea*, from the *Ocean* unto *Egypt*, and is bounded on the South by Mount *Atlas*. *Billedulgerid* lies along this Mountain, likewiſe from the *Ocean* unto *Egypt*, bounded on the South by *Saara* or *Deſart*. *Egypt* is only one Valley, from the *Cataractes* of *Nile* unto the *Mediterranean Sea*. This laſt part hath retained its ancient name; the other two put together, anſwer to what the Ancients called *Mauritania*, *Africa proprie dicta*, and *Libya* likewiſe *proprie dicta*: ſo that the moſt Weſtern parts of *Barbary* and *Billedulgerid* together make *Mauritania*, the Middle *Africa*, and the moſt Eaſtern *Libya*.

Likewiſe *Saara* or *Deſart*, the Country of the *Negroes* and *Guinny*, ſtretch themſelves from the *Ocean* unto the High and Low *Ethiopia*: And the moſt Weſtern part of *Saara* anſwers to the ancient People *Gatuli*, the Eaſternly part of *Garamantes*. The Country of the *Negroes*, to *Nigritarum Regio*: *Guinny* to many People, of which the moſt famous have been the *Peroreſi*. This *Guinny* is 750 Leagues long: The Country of the *Negroes* near 1000: *Saara*, *Billedulgerid*, and *Barbary*, each 11 or 1200 Leagues; their


North
South
Tropick of Cancer
Æquator or Æquinoctiall Line
SEA OF CANARIE
Canarie Isles
CANARIES
BARBARY
MAROCO
SEGEL
TEGO
ZEB
DARMESSA
TESSET
ZUEN
TARGA
Guargala
MEDITERRANIAN SEA
BILEDULGERID
ROYAUME DESERT
BARCA
ZANHAGA
KINGDOM OF GUALATA
SAARA
ZIGA
Hairum Desert
LAND OF ZAGHARA
LEMPTA DESERT
BERDOA
GAOGA
KINGDOM OF COUNTRY OF TOMBUT
KINGDOM OF AGADES
KINGDOM OF PHARAN
KINGDOM OF CANUM
KINGDOM OF GHAMA DOMI=CASSENA
BORNO
KINGDOM OF GANGARA
KINGDOM OF ZANFARA
KINGDOM OF VANCARA
KINGDOM OF ZEGZEG
THE LAND OF MECZA
KINGDOM OF GUBER
KINGDOM OF LAMLEM
KINGDOM OF GAGO
KINGDOM OF BANGANA
NEGROES
MELLI
MANDINGUE
GUINE
Adao
KINGDOM OF BENIN
KINGDOM OF BIAFARA
KINGDOM OF GABON
NUBIE
THE SEA OF GUINE
ATLANTIQUE OCEAN
OCCIDENTAL OR
Genehoa
Tombotu
Cantory
Souſos
Mandingue
Caragolis
Meſſurado
Cape Mount
Cape Palmas
Cape Three Points
Cape Lopez
Cape Negro
Cape Formoſa
Cape Lopez Gonſalvo
Cape Catherine
Cape of Good Hope
Cape Agulhas
Cape Corrientes
Cape Blanco
Cape Bojador
Cape Nun
Cape Cantin
Cape Spartel
Cape de Verd
Cape Verd
Cape Roxo
Cape Mesurado

their breadth being only 100, 200, or 300 Leagues. The length of *Egypt* from South to North is not above 200 Leagues. Its breadth, if we esteem it only the Valley along the *Nile*, is very narrow; and sometimes only 5, 10, sometimes 12 or 15 Leagues.

We have divided *Ethiopia* into the Higher and the Lower, placing in the Higher, *Nubia*, *Abissina*, and *Zanguebar*; in the Lower, *Congo*, *Mono-Motapa*, and *Cafres*. *Nubia* is for the most part on this side, and to the West; *Abissina* above, and *Zanguebar* beyond the *Nile*, and in the most Easterly part of *Ethiopia*. *Congo* makes the most Western part of *Ethiopia*; the *Mono-Motapa*, and *Cafres*, the most Southern: This on the Coast, the other within Land.

Nubia, *Abissina*, and *Zanguebar* together, answer to the *Ethiopia sub Egypto* of *Ptolomy*; *Nubia* to the most Northern part, and neareſt to *Egypt*; *Abissina* more Southern; *Zanguebar* to that which is on the Coasts, and there where *Ptolomy* describes the Regions of *Barbary*, *Azania*, and *Troglo-ditica*; which answer to the particular *Zanguebar*, on the Coast of *Ajan*, and the Coast of *Abex*; which we esteem under the general name of *Zanguebar*. In the Lower *Ethiopia*, *Congo* answers to the *Hesperii Æthiopes*, the *Mono-Motapa* to *Agisymba Regio*, the *Cafres* to the *Anthropophagi Æthiopes*.

The Coast of *Cafres* reaches 1200 Leagues; the *Mono-Motapa* is 4, 5, or 600 long and broad; *Congo* 6 or 700 long, and 300 large; *Nubia* 400 long, and 200 broad; *Abissina* 7 or 800 long, and 4 or 500 broad; The Coast of *Zanguebar* stretches 15 or 1600 Leagues, with not above 100 of breadth, like to that of *Cafres*.

Its chief Mountains, *viz.*

The Mountains of *Africa* are in great number, and very remarkable, both for their height, extent, the Metals wherewith they abound, and other particulars. The most famous are *Atlas*, those of the *Moon*, and *Serre Lione*.

Atlas

Atlas was the most famous Mountain among the *Ancients*, who believed it bounded the World on the South. Its name was taken from *Atlas*, King of *Mauritania*, whom *Perseus* turned into a Mountain, by making him see the Head of *Medusa*; and because he had been an *Astronomer* the Poets feigned, that he bore up the Heavens. It is true, this Mountain is so high that it seems to touch the Skies; it extends it self from the *Great Sea* or *Occidental Ocean*, to which it hath given the name of *Atlantick*, even near to *Egypt*, for the space of more than 1000 Leagues, leaving *Barbary* on the one side, and *Billedulgerid* on the other; casting forth branches under divers names on both sides. There is the Great and Little *Atlas*.

The Mountains of the *Moon*.

The Mountains of the *Moon*, now of *Beth*, are higher than any of *Europe*, and are alwaies covered with *Snow* and *Ice*: But these Mountains make divers branches towards the *Cape of Good Hope*; they are called *Picos Fragosos*; towards the East of *Congo*, the Mountains of *Chrystal*; above the Lakes of *Zaire* and *Zafflan*, the Mountains of the *Sun*, and of *Salt-Peter*; and it may well be, that the highest between *Abissina*, the *Mono-Motapa* and *Cafrerid*, retain the name of the Mountains of the *Moon*.

The Mountains of *Serre Lione*.

The Mountains of *Serre Lione*, by the *Portugals*, *Sierre Lioa*, are the *Chariot* of the *Gods* of the Ancients: And this name was given, because from their top they send forth continual *Lightnings* and *Thunders*, as if the *Gods* could not march with less noise. Their principal ridge is between the Country of the *Negroes* and *Guinny*, where they make two Branches; one advancing into the Farther *Africa* or *Libya*, and the Higher *Ethiopia*; the other between the Higher and Lower *Ethiopia*: this seeking the Mountains of the *Moon*, the other *Atlas*.

Its chief Rivers, *viz.*

The largest and most famous Rivers of *Africa* are the *Nile* and the *Niger*; the *Nile* hath been known in all times. Ancient and Modern Authors have been troubled to tell where its Head-spring is, and more to give the reason of the Increase and Decrease of its Waters; we will speak something of it in *Egypt*. Its course is 1200 Leagues in a strait line, and little less than 2000 in its turnings: It descends from the Lake *Zaire*, traverses the Higher *Ethiopia*,

The Nile.

Nubia, and *Egypt*, and falls with ſeveral Mouths into the *Mediterranean*; about the middle of its courſe it embraces the Iſle of *Meroe* or *Gueguere*: And this Iſle hath many Eſtates and Signories, and may boaſt it ſelf the greateſt and faireſt of all River Iſles that we have knowledge of.

The *Niger*. The *Niger* hath its Springs in the Kingdom of *Damont*, above the Lake *Niger*, and not far from the *Nile*, when it is out of the Lake of *Zaire*. This *Niger* doth in ſome part divide the Higher *Ethiopia* from the Lower, approaches *Nubia*, and the Countrey of the *Negroes*; hitherto rolling its ſtreams from South to North, till loſing it ſelf in the Earth, it riſes again near the Lake *Borno*; turns its courſe, and continues it to the Weſt, traverſing the whole Country of the *Negroes* 200 Leagues from the Sea, it divides it ſelf into many Branches, which have divers names, and falls into the *Ocean* between the 11*th* and 16*th* degrees of *Latitude*. Its courſe is a little longer than that of the *Nile*; its ſtreams more violent, and hath the ſame property of overflowing and fatning the Earth; engenders the ſame Creatures, but not ſo ſtrong; hath grains of *Gold* in its Sand: But the Country which it traverſes is neither ſo well habited, rich, nor known, as that of the *Nile*. Some believe the *Nile* and the *Niger* come from the ſame Springs, and that they begin not to divide but between the Higher and Lower *Ethiopia*; one continuing its courſe towards the North, the other turning from Eaſt to Weſt: So the *Arab* of *Nubia* calls both, *Nile*; and to diſtinguiſh them adds, *Nile* of *Egypt*, and *Nile* of the *Negroes*.

The *Zaire*. The other Rivers of *Africa* are not to compare with theſe. *Zaire* in *Congo* may be conſidered for the quantity of Waters it ſtreams down, and for the greatneſs of its Mouth at the Sea, and ſo ſome others: but let us paſs to the *Promontories*.

Its Promontories. We have already touched a word or two on the principal ones, to wit, the Capes of *Bona*, *Hermea*, *Promontorium*, *Cape Verd*, *Arſinarium Prom*, *Gard a Fuy*, *Aromata Prom*; (this Name was given, becauſe of the *Drugs* and *Spices* of the Eaſt, which paſſed before this Cape to deſcend by the *Red Sea* into *Egypt*, and from *Egypt* into the *Mediterranean*, and through all the Weſt,) and of the *Cape of Good Hope*, of which the *Greeks* and *Latins* have had no certain knowledge, much leſs thoſe before them; nevertheleſs we find ſome Authors among the Ancients, who would make it appear that the *Barbarians*, that is, the ſtranger Nations, have made (or cauſed to be made) the Circumnavigation of *Africa*, which could not be done without knowing of this Cape.

The Emperours and Kings which poſſeſs *Africa*. The Kings, Emperours, or Princes, which at preſent poſſeſs *Africa*, are in very great number; the moſt powerful and conſiderable are the Great *Turk*, or *Sultan* of the *Ottomans*, who holds all *Egypt*, a great part of *Barbary*, and almoſt all the Coaſt which touches the *Red Sea*. The *Negus* of the *Abiſſines*, who poſſeſſes the faireſt and greateſt part of the Higher *Ethiopia*: the *Xerifs* of *Fez* and *Morocco*, which have held thoſe two Kingdoms in *Barbary*, and likewiſe *Dara*, and *Segelmeſſe* in *Billedulgerid*. The King of *Tombutt*, among the *Negroes*: the *Mona's* or *Mani*, that is, Kings of *Congo*, *Monotapa*, and *Emugi*; and the *Soba* of *Angola*, in the Lower *Ethiopia*; he of *Adel*, in the Coaſt of *Ajan*; beſides which there are many *Xeques* of the *Arabs*, many free and vagabond People, who (for the moſt part) live without Chiefs, Faith, or Law.

The Kings of *Caſtile* and *Portugal* hold many places on the Coaſts of *Africa*; thoſe of *Caſtile* hold ſome on the *Mediterranean Sea*; thoſe of *Portugal* hold a great number on all parts of the *Ocean*, which encompaſſes *Africa*; but the *Hollanders* have taken ſome from them, and others are delivered to the *Engliſh*.

Languages or Tongues ſpoken in *Africa*. Amongſt a great number of different Tongues that are in *Africa*, the three or four principal and moſt general ones are the *Beribere* or *African*, which comes from the Ancient *Punick*, the *Arabick* and *Ethiopian*. The *African* and *Arabick* extend themſelves through all *Barbary*, *Billedulgerid*, *Egypt*, and *Saara*, according as the People of theſe Countries, deſcend from the *Africans* or *Arabs*. The *Ethiopian* is in the greateſt part of *Ethiopia*; if it be not on the Coaſts, where the commerce and confluence of Strangers hath long ſince changed the Tongue: But the *Negroes* ſeem to have a particular Language. Theſe Tongues have divers Idioms, and very different the one from the other; all (or at leaſt the three firſt) deſcending from the *Hebrew*, or Tongues derived from it.

Their Religions. The Religions which have courſe in *Africa* may be reduced to four; *Mahometiſm*, *Paganiſm*, *Chriſtianity*, and *Judaiſm*. *Mahometiſm* poſſeſſes *Barbary*, *Billedulgerid*, *Egypt*, *Zaara* or the *Deſart*, part of the *Negroes*, and a good part of the Coaſt of *Zanguebar*. *Paganiſm* holds part of the *Negroes* and *Nubia*, *Guinny*, and almoſt all the Lower *Ethiopia* (I comprehend the *Cafres* with the *Pagans*,) part of *Zanguebar*, and ſome mixture otherwhere. *Chriſtianity* holds in *Africa* almoſt the whole Empire of the *Abiſſines*, part of *Egypt*; but the moſt part *Schiſmaticks*; and along all the Coaſts of *Africa*, where the *Portugals* are the ſtrongeſt, they have introduced *Chriſtianity*: as in *Congo*, *Angola*, and ſome Coaſts of the *Cafres* and *Zanguebar*. As for *Judaiſm*, it is ſcattered in many Cities on the Coaſts of *Barbary*; as at *Morocco*, *Fez*, *Algier*, &c. Likewiſe in *Egypt*, and on the confines of the *Abiſſines* and the *Negroes*, they have the Kingdom of *Ximen* tributary to the *Abiſſines*; but the *Jews* are but a ſmall number in *Africa* in compariſon of the others. I make account that *Africa* being divided into 16 equal parts, *Mahometiſm* would poſſeſs 5 or 6, *Paganiſm* 6 or 7, *Chriſtianity* 3, and *Judaiſm* only one.

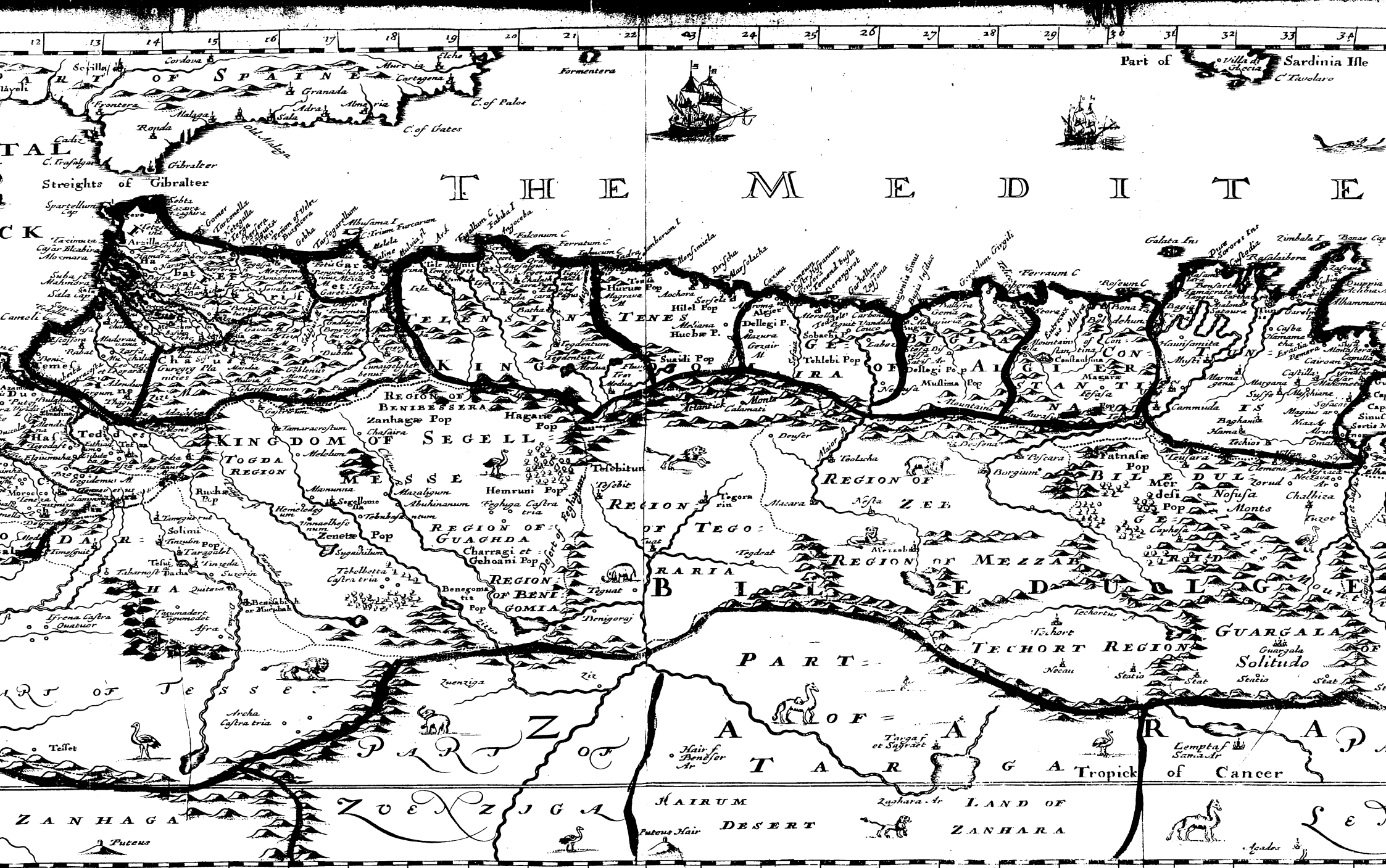
Its diviſion into Parts, as at this day known. *AFRICA*, as it is at this day known, may be divided into theſe 8 parts following, *viz.* 1. *Barbary*, (in which is found the Kingdoms of *Morocco*, *Fez*, *Algier*, *Telenſin*, *Tunis*, *Tripoli*, and *Braca*.) 2. *Billedulgerid* or *Numidia*. 3. *Egypt*. 4. *Zaara* or *Libya Interiour*, in which is comprehended the Country of the *Negroes*, *Guinny*, with ſome certain Iſles. 5. *Nubia*. 6. The Empire of the *Abiſſines*, or the higher or greater *Ethiopia*, in which I comprehend *Zanguebar*. 7. *Ethiopia* the Lower, in which are found the Kingdoms of *Congo*, the Empire of the *Monomotapæ*, the Land of *Cafres*: And 8. and laſtly, the Iſles of *Africa*. And of theſe in order.

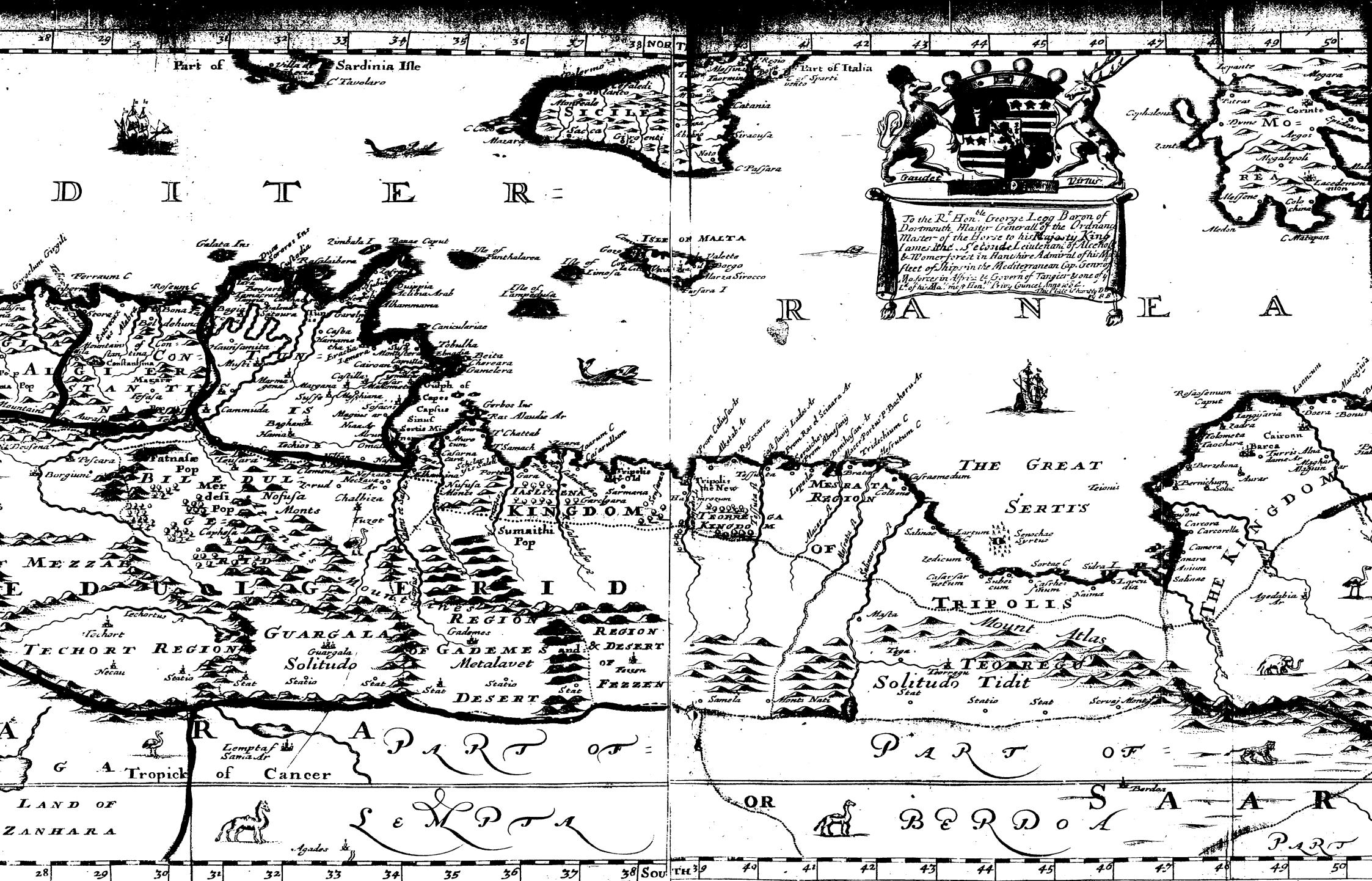
Under

Under the Name of BARBARY, are comprehended several Kingdoms, to wit,

- The Kingdom of MOROCCO, wherein are several Provinces; and which may be considered as they lie
  - On the Sea, as
    - Susa,
      - Taradante,
      - Messa,
      - Tagavoskust,
      - Tojoura,
      - Garrgueffemum.
    - Hea,
      - Tedneft,
      - Teculethum,
      - Goza,
      - Tefecthna.
  - Within Land, as
    - Guzula,
      - Guzula.
    - Morocco,
      - Morocco,
      - [illegible]met,
      - Elguimha,
      - Temella.
    - Hascora,
      - Elmadina,
      - Tagodaste.
    - Teldes,
      - Teiza,
      - Tedzi.
    - Ducala,
      - Azamor,
      - El Medina,
      - Asafi.
- The Kingdom of FEZ, with its several Provinces; which may be considered as they lie
  - On the Ocean, as
    - Temesne,
      - Anta,
      - Almansor,
      - Rabatt,
      - Adendum.
    - Fez,
      - Fez,
      - Mahmora,
      - Salla, or Sally.
    - Asgar,
      - Casar-el-Cabir,
      - Lharais.
  - On the Streight of Gibraltar,
    - Habat,
      - Arzila,
      - Tangier,
      - Tetringuina.
  - On the Mediterranean Sea, as
    - Errif,
      - Gomer,
      - Bedis.
    - Garret,
      - Mellila,
      - Fetis.
  - Up within Land, as
    - Chaus,
      - Teza,
      - Dubdu,
      - Garsis.
- The Kingdom of ALGIER, with its Provinces; which may be considered as they lie
  - On the West, as
    - Telensin, with its Quarters
      - Telensin,
        - Telensin,
        - Oran,
        - Marsalquibir.
      - Hanghad, Beni-Rasid
        - Guagida.
        - Batha.
    - Tenez,
      - Tenesa,
      - Serfela,
      - Meliana.
  - In the Middle, as
    - Algier,
      - Algier,
      - Temendfusta,
      - Teddeles.
  - On the East, as
    - Bugia,
      - Bugia,
      - Chollum,
      - Gergelum,
      - Steffa.
    - Constantina,
      - Constantina,
      - Bona,
      - Tabarca,
      - Tebessa.
- The Kingdom of TUNIS, with its Governments; and which may be considered as they lie
  - On the Sea, and are Maritim, as
    - Benserta,
      - Benserta.
    - Goletta,
      - Tunis,
      - Goletta.
    - Sousa,
      - Susa,
      - Hamametha.
    - El-Media, or Africa,
      - El-Media.
  - Within Land, as
    - Beija, or Bege,
      - Beija.
    - Urbs,
      - Urbs,
      - Arbes,
      - Musti,
      - Marmagena.
    - Cayroan,
      - Cayroan,
      - Casta,
      - Hama.
- The Kingdom or Province of TRIPOLI, whose chief Maritim places are those of
  - Capes,
  - El-Hamma,
  - Tripolis the New,
  - Lepeda,
  - Tripolis the Old.
- The Country of BARCA, or LIBYA, which may be divided into
  - The Kingdom of BARCA, as it regards the Sea, and makes the most Eastern Coast of BARBARY, whose chief places are
    - Camera,
    - Bernichum,
    - Torachara,
    - Tolometa,
    - Zadra,
    - Barca,
    - Cayroan,
    - Boni-Andreas,
    - Musolomarus,
    - Albertonus,
    - Roxa.
    - Ripæalba.
  - The Desart of BARCA, within Land, more Southward, and under the Tropick of Cancer; whose chief places are,
    - Ammon,
    - Gorham,
    - Angela,
    - Alguechet,
    - Ernet,
    - Serta,
    - Ascor,
    - Ebaida, and Couzza.

MO-


THE MEDITE
Streights of Gibralter
Part of Sardinia Isle
Tropick of Cancer
KINGDOM OF SEGELL
REGION OF BENIBESSERA
REGION OF GUAGHDA
REGION OF BENIGOMIA
REGION OF MEZZAB
TECHORT REGION
LAND OF ZANHARA
HAIRUM DESERT
DESERT of Zaara
ZANHAGA
ZUENZIGA
Hagarœ Pop
Zanhagæ Pop
Hemruni Pop
Zenetæ Pop
Charragi et Gehoani Pop
Benegomatis Pop
Hilel Pop
Suaidi Pop
Tehlebi Pop
Muslima Pop
Patnasæ Pop
Solitudo
GUARGALA
Atlantick Mountains
Mons Calamati
Mons Clarus
Puteus Hair
Puteus
Zaphara Ar
Hair f. Benesser Ar
Targa f. et Sagraet
Lempta f. Samia Ar
Tesset
Tegorarin
Tegdeat
Tafilet
Tuat
Benigoraj
Tebelbitun
Tesebit
Tefchort
Necau
Statio
Stat
Stenio
Stat
Joales
Sardinia Isle
Villa di Oleza
C. Tavolaro
Formentera
Cordova
Seville
Murcia
Elche
Cartagena
Granada
Almeria
Malaga
Sala
Adra
Ronda
Old Malaga
Gibralter
C. Trafalgar
C. of Palos
C. of Gates
Frontera
Cadiz
Tangier
Ceuta
Tetuan
Tarifa
Alcazar
Fez
Mequinez
Salle
Rabat
Azamor
Mazagan
Safi
Santa Cruz
Tarudant
Messa
Morocco
Terodant
Tedsi
Haskora
Tesset
Tafilet
Tuat
Tegorarin
Tegdeat
Tebelbitun
Tesebit
Benigoraj
Tigmi
Tigmadert
Tigmadert
Afra
Iffrena Castra
Quatuor
Tabarnost
Tinzulin Pop
Targalel
Tinzeda
Solimi
Ruchena Pop
Segelmessa
Tebulbasa
Zenetæ Pop
Sygnahilum
Tehelbetta Castra tria
Benegomatis Pop
Benigoraj
Tigmi



NGDOMS, AND ESTATES OF MOROCCO, FEZ, ALGIER TUNIS AND TRIPOLIS. ALSO THE KIN

r to the French King; and Rendred into English, and Illustrated



AND TRIPOLIS: ALSO THE KINGDOMS, ESTATES, AND DESERTS OF BARCA, EGIPT, LIBYA.

By his Majesties Especiall Command.

MOROCCO.

THE Kingdom of *MOROCCO* is the most Western part of *Barbary*, bounded by the *Ocean*, the River *Sus*, Mount *Atlas*, and the River *Ommiraby*: The *Ocean* washes it on the West; the River *Sus* separates it from *Tesset* on the South; Mount *Atlas* divides it from *Darrha*, and *Segelmesse*, on the East; and the *Ommiraby* from the Kingdom of *Fez*, on the North. Kingdom of *Morocco*, its bounds.

It is divided into 7 *Provinces*: those of *Sus*, *Hea*, *Guzula*, and *Morocco*, are between the Rivers of *Sus* and *Tensift*; the two first on the *Sea*, and the other within *Land*. The Provinces of *Teldes*, *Hascora*, and *Ducala*, are between *Tensift*, and *Ommiraby*: the two first up in the *Land*, the other on the *Ocean*: and these three last stretch towards the North and East; the four first towards the South and West. Its Provinces.

1. The *Province* of *Sus* is about the River *Sus*, and is sometimes extended as far as *Cape de Non*. *Taradante*, not far from *Atlas*, is esteemed the chief City of this Province, its *Governours* and *Kings* having here made their residence; much enriched of late by the *English* and *French Merchants*, who have here a Staple for their *Sugars*. The *Town* is large and well built, seated in a spacious Plain, which affordeth great plenty of *Sugar*. 2. *Messa*, at the flux or mouth of the River *Sus*, it is composed of three little *Cities* walled apart; and betwixt which the River passes. 3. *Tejent*, seated higher; and on the same River, on a spacious Plain, is likewise composed of three Towns, each distant a Mile from each other, having their Temple common in the midst of the three. 4. *Tedsa*, beyond the River *Tagavost*, containing about 8000 *Houses*; its chief Ornament being a fair *Mehometan* Temple. 5. *Capo d' Aguer*, seated on a Promontory so called, and is a place of great importance. Province of *Sus*, its chief places, &c.

The Fortress, and City of *Guarguessen* in the midst of the Coast, and on a branch, which this Mountain under the name of *Idevacall*, stretches into the *Sea*, belongs to the Crown of *Portugal*.

The Province of *Guzula* is to the East of *Sus*; to the South of *Hea*, and *Morocco*; to the West of the Province or Kingdom of *Darrha*; and to the North of *Tesset*. Here are observed to be no walled *Cities*, or *Fortresses* of note: but it hath many *Burroughs* and *Towns* of 1000 or 1200 *Houses*: where there are *Markets* kept thrice a week, and a great *Fair* yearly, which lasts two Months; to which many *People* from most parts of *Africa* do resort. The chief place bears the name of the *Province*; the *People* are rude and barbarous, and with much ado are subject to the King of *Morocco*. In the Country are many rich Mines of *Gold*, *Brass*, *Iron*, and other *Metals*. Province of *Guzula*, its bounds and chief Places.

The *Province* of *Morocco*, particularly so called, lies all between the Rivers of *Asifnuall*, and *Tensift*; from their Springs at the Mount *Atlas*; until they meet about 15 or 20 Leagues from the Sea, *Asifnual* divides it from *Guzula*, and *Hea*; *Tensift* from *Hascora*, and *Ducala*. The City of *Morocco* is the chief of the whole Kingdom, and hath been a long time in great esteem, and once accounted the Metropolis of all *Barbary*, and reckoned amongst the greatest Cities in the World. At which time it had twenty four, or twenty five *Gates*, being in circuit 12 Miles, and contained about one hundred thousand Families. It is strongly girt about with Walls, and adorned within with many publick and private *Buildings*; as, its *Palace*, Province of *Morocco*, and and its chief Cities.

which

Morocco, its Trade and Commodities.

which they name the *Alcaſar*. Its *Churches* or *Moſques* are very fair, eſpecially one, which is held the greateſt in the World, ſeated in the midſt of the City, adorned with many ſumptuous Pillars, which were brought out of *Spain* when the *Moors* had the poſſeſſion of the Country. It hath a very large and ſtrong *Caſtle*, eſteemed as big as a reaſonable Town. Here is alſo a *Burſe* for Merchants, who trade hither. But of late, by reaſon of the defacement and Spoils which it hath ſuffered by the *Arabians*, together with the removal of the Seat Royal to *Fez*, now the Metropolis of all *Barbary*, it hath loſt much of its ſplendor, a great part of the City being deſerted, ſo that they make uſe of but 4 or 5 Gates; neither is that part ſo populous, rich, nor hath ſo good a Trade as formerly. 2. *Agmett*, ſeated on a River of the ſame name; and at the meeting of divers paſſages which deſcend from Mount *Atlas* in the Plains of *Morocco*, hath been very fair and populous, and its Hills and Valley about it ſo fertil, and beautified with pleaſant Gardens, that it was called the Little *Morocco*; at preſent it is almoſt Deſart. 3. *Elgiumuha*, near the Mountain, and on the River *Secſiva*. 4. *Imegiagen*, ſeated on a Mountain very ſteep on all ſides: And, 5. *Tenezze*, a Town of ſome note. All which are ſtrong places, and very advantagiouſly ſcituated.

Province of *Hea*, its fertility, People, and chief places.

HEA, Weſt of *Morocco*; a Province Mountainous and Woody, yet watered with many good Rivers; the Soil indifferently fertil, and would produce ſeveral good Commodities, were it inhabited by induſtrious People; theſe being a ſort of idle and in a manner barbarous, altogether ignorant of Arts, except ſome Teachers of their Law, which can hardly read; as alſo ſome *Chirurgions*, who are chiefly employed in the circumciſion of their Children; they are generally very courteous to Strangers, but very contentious among themſelves. Its chief Cities are, 1. *Tedneſt*, once a place of good eſteem, ſeated on the River *Savens*. 2. *Hadequis*. 3. *Teguleth*: and, 4. *Tejeut*, places of good note and Trade, the firſt containing about 1000 Houſes, having the benefit of a good Port, and beautified with a fair *Moſque*, with ſome Hoſpitals. But about the year 1500 they were much ruined by the *Portugals*, in whoſe poſſeſſion they are, who have ſince ſomewhat added to its former Eſtate. *Tedneſt* hath about 1600 Houſes, the moſt part *Jews*, which are eſteemed the chiefeſt. In the Mountains, *Teſegdelt* is moſt conſiderable, containing above 1000 Families, and well ſcituated; its Walls being no other than thick Rocks. So are *Ileuſugagen*, *Tegteſſe*, *Eitdeſet*, *Culejat*, &c. ſcituated upon Mountains, and of good ſtrength. *Tefethna*, on the Coaſt, and at the Mouth of a River of the ſame name, hath a Port, where there is ſome Trade. The Iſle of *Mogadour*, near the Cape of *Ocem*, is diſtant from the Coaſt two little Leagues. The Kings of *Morocco* have built here a Fortreſs to keep ſome Mines of *Gold* and *Silver* which are in the neighbouring Mountains.

The Iſle of *Mogadour*.

Its Mountains well inhabited.

The Mountains of *Aidvacall* or *Idevacall*, near *Cape de Guer*; of *Demenſera*, near the Province of *Guzula*, and *Gebel el Haden*, near the *Tenſit*, take up a part of the Province; and are ſo well inhabited, that the laſt can ſet forth 12000 fighting Men, the firſt 20000, and the other 25000.

Provinces of *Haſcora* and *Teldes*, and their chief places.

Its People.

North of the Province of *Morocco* are thoſe of *Haſcora*, and *Teldes* ſeparated the one from the other by the River *Quadel Habid*. *Tefza* is the chief City of *Teldes*, and near the River *Derna*, which falls into the *Ommiraby*; a rich City, built by the old *African Moors*, and beautified with many *Mahometan Moſques*; and its Walls were made of a kind of Marble. 2. *Elmadine* is the chief City of *Haſcora*, peopled with about 10000 Families, ſcituate in a pleaſant Valley, and begirt with Hills; it is well built; its Inhabitants are civil, ingenious, and addict themſelves to Arts, Traffick, and Manufactures: the Women are fair, as in 3. *Tagodaſt*, which is on a Mountain, whoſe Foot is waſhed with many little Streams, which water their Gardens. 4. *Elgiumuha*, towards the South, built by the People, and in a like ſcituation with *Tagodaſt*. And, 5. *Bzo*, likewiſe a City of ſome Trade. Between the Mountains *Teldes* hath more than 50 walled Towns, built near the ſtreams of the River *Darha*. Theſe Provinces are fertil, having rich Fields, feed a great quantity of *Goats*, of whoſe Skins are made the *Cordovants*, and of their Hair, plain and watered *Cham-*

Chamlets; alſo ſtore of *Cattle*; *Grains*; excellent *Fruit* amongſt others their *Grapes* as big as *Pullets-eggs*; they have plenty of *Fowl*, and their *Rivers* breed ſtore of *Fiſh*.

The fertility & Commodities.

Province of *Ducala*.

Ducala the moſt Northern part of *Morocco*, and poſſeſſes that which is between the *River Tenſift*, and *Ommiraby*: a Land fruitful for *Grains*. Its beſt Cities are, 1. *Azamor* where the *Ommiraby* enlarges and forms a Gulph to disburthen it ſelf into the *Sea*, which before the *Portugals* became maſters of it, had above 5000 Houſes. It fell again into the hands of the *Moors*, and entirely reſtored, having a ſtrong Garriſon. 2. *Elmadine* towards the *Sea*, and in a fair Plain, hath been eſteemed the Capital of the Country. 3. *Magrizena-Sanut*, which they have fortified; and on the ſame Coaſt have diſmantled *Tite*, the eaſier to fetch in Tribute thence, and from the Neighboring places. 4. *Aſafi* or *Satfy* not far from *Tenſift*, is ſtrong, and hath a good Trade, where the *French* hath a Conſul.

Kingdom of *Morocco*.

The Kingdom of *Morocco* hath ſuffered great changes, within theſe few Centuries of years; having been often united, and as often ſeparated from that of *Fez*. And ſometimes likewiſe its South parts, *Sus* and *Gurul* have made a Kingdom apart. Its principal Ports are thoſe of *Meſſa*, *Azafi*, *Mazagan* and *Azamor*. Its *Promontories* thoſe of *Guer*, *Ocem*, *Cantin* and *Carvos*. Its *Rivers*; the *Sus*, which waters its Southern parts; *Tenſift* which divides the Eſtate in 2 equal parts; and *Ommiraby* which ſeparates it from the Kingdom of *Fez*.

Its chief Ports, Promontories and Rivers.

Its Air, Fertility and Commodities.

The *Air* of the Plains, and Fields of *Morocco* is much hotter then in *Europe*, that of the *Mountains* according to their height is more or leſs cold. In general this Kingdom is provided with all things neceſſary for mans life; they have *Grains* and *Pulſe* in abundance; as alſo *Fruits* which are excellent, eſpecially their *Grapes*. They have likewiſe *Flax*, *Hemp*, *Honey*, *Wax*, *Sugar*, *Gold*, *Silver*, *Iron*, *Copper*, *Marble*, *Cordovants*, *Amber*, *Chamlets* and many good *Manufactures*.

The Kingdom of FEZ.

Kingdom of *Fez*.

THE Kingdom of *FEZ* lies between that of *Morocco* and the *Mediterranean*; and between the *Ocean*, and the Kingdom of *Telenſin* or *Argiers*.

Its Provinces.

Its *Provinces* are *Temeſne*, *Fez* and *Azgar* on the *Ocean*; *Habat* on the *Streight*; *Errife* and *Garret* on the *Mediterranean Sea*; and *Chaus*, all up in the Land.

Province of *Temeſne*.

Temeſne extends its ſelf from *Mount Atlas*, unto the *Ocean*, hath formerly been ſo flouriſhing, that it numbred 40 Great Cities, more then 100 middle ſized, and 300 little ones, beſides an infinite number of Villages.

Beſides the Inteſtine Wars of the Country, the *Portugals* have divers times level'd and ruined the faireſt Cities of the Coaſt: as *Anfa* and *Al-Manſor* in 1468. and afterwards *Rabatt* likewiſe ſuffered their Incurſions and Plunders. *Rabatt* and its *Fortreſs*, are on a Riſing ground between the *River* of *Buragrag*, and the *Sea*. King *Manſor* cauſed it to be built after the Modell of *Morocco*; but much leſs, and made it one of the moſt conſiderable places of all *Barbary*, erecting many *Palaces*, *Temples*, *Hoſpitals*, *Colledges*, *Baines*, *Shops*, &c. and without the South *Gate* a *Tower* as high as that of *Morocco*; it was very populous and of a good Trade. And becauſe the Waters round about were ſalt, he made an *Aquæduct* as beautiful as thoſe about *Rome*. But at preſent theſe fair *Edifices* are almoſt ruined, it being poſſeſſed with not above 500 families, and much ſouldiery becauſe of the Neighbourhood of the *Portugals*; moſt of the ground within the Walls being turned into *Gardens*, *Vineyards*, and *Meadows*.

Anfa on the Coaſt, and in a delightful Plain, hath been one of the moſt famous Cities of *Africa*, for its Trade with the *Engliſh* and *Portugals*; but its being addicted to Pyracy, was the cauſe of its ruine, as of that of *Al-manſor* on the *River Guir*.

Within the Land, *Muchaila* on the *Guir*, and in the Road from *Morocco* to *Rabat*, hath been rich, well built, with a great Territory, and fruitful in *Grain*. It was ruined by the Kings of *Morocco*; and is not known at present, but for the Tomb of one of their *Morabuts* whom they esteem a Saint, and where the Country people lay in pledg their *Ploughs* and Instruments of labour, which no persons dare touch. They have another *Morabut* near *Thagia*, whom they believe to work Miracles, and to preserve them when they are met by *Lions*; a place much frequented by those of *Fez*, as being the Sepulcher of one of their Prophets to which they go in exceeding great numbers in *Pilgrimage*. *Adendum* towards the *Sea*, well walled, and fenced on one side by a *Lake* or *Pool*. *Tegeget* above the *Ommiraby* hath store of *Grains*, where the *Arabs* have a *Toll*, once of great note.

The Ornament of this Province, and of the whole Kingdom (nay we may say of all *Barbary*) is *Fez*, which the *Mahometans* call the Court of the West: It is 100 Thousand paces from the Ocean, and as much from the *Mediterranean*. Its form is a long square, of which the middle is in a Plain, the two ends on Hills; and without several Suburbs, some of 500, some 1000, and others of 2000 Houses. This City bears the name of *Fez*, from the abundance of *Gold* which was found in the digging the Foundation thereof. It hath 12 principal *Quarters* or *Regions*, 62 great places for Trade, and much frequented by *Merchants*, of divers Nations who are allowed a publick meeting place for their *Commerce*, and lodging for their residence, and also *Store-Houses* for their *Commodities*; this place may rather be called a Court, than an Exchange, it being inclosed within a strong Wall, in which are 15 fair *Streets*, for several Nations to meet and reside for the better negotiating of their affairs; to this inclosure there are 12 *Gates* which every night are shut up and kept guarded at the Cities charge for the security of their *Goods* and *Persons*. Its Houses are well built, hath abundance of *Temples*, amongst which about 50 are well built, and beautiful. The greatest and most sumptuous of all, is seated in the heart of the City, containing about a Mile in Circuit, hath 31 great high *Gates*; and round about are several *Porches* containing 40 yards in length, and 30 in breadth, under which are the publick *Store-houses* of the City: The *Tower* is sustained by 35 Arches in length, and by 20 in breadth: All the *Temple* hath 900, and almost all these pieces enriced with *Marble*. Its Revenue is 200 *Duckats* a day, others say 400, which are either 75 or 150 thousand *Duckats* yearly. Within and without the City there are above 200 *Hospitals*, of which 25 are for the sick people of the Country, among which one can daily provide for 2000 Persons, others are for strangers; but their Revenues are much squandred, and they give nothing but the Bed and Coverlet, but in some Food for three daies. There is likewise 200 *Banias* or *Stews*, 200 *Inns*, of which some have more then 100 *Chambers*, 400 *Mils* which daily work 1200 *Mules*. Among its *Colleges*, the building of that of King *Habu Henon* cost 500 thousand *Duckats*, being a most curious and delicate Building, all enriched with *Mosaicque* work of *Gold*, *Azure* and *Marble*; its *Gates* are of *Brass*. In this *Colledge* are abundance of stately Buildings, as *Cloisters*, *Halls*, *Baines*, *Hospitals*, &c. It hath a stately *Library*, in which besides other Books are 20000 Volumes in *Manuscript*. They have 150 publick necessary houses built so commodiously, that the Waters carry away the ordure. To its Walls it hath 86 *Gates* which serve for entrance into the City.

The New City of *Fez*.

South East of the old *Fez* is the new City, at a Mile or 1200 paces distance; this is almost only for the House, and for the Officers of the King. The Palace where he ordinarily resides, and the Palaces of the principal Lords, the *Mint*, a stately *Temple*, &c. are in the first quarter. The Officers of the Court, and the Captains of the guard hold almost all the second, and the Kings Guards alone had formerly the third. Now a good part of this last quarter is possessed by *Jews* and *Goldsmiths*; and part of the second, by divers *Merchants* and *Artisans*.

In

In this City of *Fez*, (as generally throughout these parts) they have abundance of *Conjurers*, *Fortune-tellers*, *Juglers*, and *Inchanters*, who are in some War esteem amongst them. Its People are of a duskish or blackish complexion, of sly, Stature tall, and well proportioned; they are of an active disposition for and Horse-manship, otherwise excessive idle; they are very subtle, close, perfidious, inconstant, proud, much addicted to Luxury, and therefore by consequence very jealous of their Wives, whom they keep with great severity, and that the more according to their external graces; they are very revengeful if injured, and hard to be reconciled. In their gait they have much of the *Spaniard* in them; in their Apparel they go very sumptuous and rich, but their Food is but very gross.

Their Religion.

As to their Religion they are either *Mahometans* or *Heathens*; and are for the most part inclined to *Literature* and *Arts*.

Their Magistrates and Justice.

In this City are four sorts of Magistrates: one for the *Canon-Law*, one for the *Civil-Law*, another for *Marriages* and *Divorcements*; and another as an *Advocate*, to whom they make their appeal. In the *Administration* of *Justice* they are more or less severe, according to the hainousness of the offence.

In their Marriages they observe many Ceremonies; as being agreed, they are accompanied to the Church by their *Parents*, *Relations*, and *Friends*; which Ceremony being ended, they are invited to two Banquets, the one at the *Bridegrooms* cost, and the other at the *Brides Relations*; which being done, the *Bridegroom* causeth the *Bride* to be conducted to his House with *Musick* and *Torches*, being accompanied with their *Friends*; and being entred the House, she is immediately lead to the Chamber door; and delivered by her *Father*, *Brother*, or some of her *Kindred* to his *Mother* (if living) who there waits for her coming, who immediately is redelivered to him; who forthwith conducts her to a private Chamber, where he enjoyeth her; and if she is found to be a Virgin, which will appear by the blood which will proceed, which perceiving they drie up with a Napkin, and carry in their hands to shew the Company, with great joy; and then they make Feasts, and are very merry: But if shebe contrary, and that no blood is caused, then they judge her Virginity lost; and thereupon the Marriage is frustrated, and with great disgrace she is turned home to her Parents. This with several other Ceremonies are omitted in the Marriage of a Widow.

Here the Women at the death of their Friends assemble themselves together, habit themselves in *Sack-Cloth* and *Ashes*, and sing a *Funeral Dirge* to the praise of the Deceased; and at the end of every verse, howl and crie; and this they do for seven daies together; during which time her Friends send in Provisions, and come and comfort her; for their custom is not to have any meat dresst in the House of Mourning, during the said time, especially untill the Corps is interred.

1. The City of *Mahmora* fell into the hands of the *Portugals* in 1515, was presently retaken by the King of *Fez*, who defeated 10000 Christians, and gained 60 pieces of *Artillery*. The Kings of *Spain* likewise made themselves Masters of it 1614 and have fortified it because of the goodness of the Port. 2. *Sala* or *Sally*, hath been the residence of some Kings of *Fez*. It is composed of two Cities, the Old and the New; and hath a great Trade with the *English*, *French*, *Hollanders* and *Genoueses*. Its Fortress is on a rising ground, with a high Tower which discovers the Sea. In the Castle the King *Munsor*, and others his successors, have their magnificent Tombs.

The place was taken by the *Castilians*, and retaken from them some years past; and afterwards abundance of the *Moors* of *Granada*, driven from *Spain*, retiring thither, have fortified and enriched it with their Piracies. 3. *Mechenese* between *Sally* and *Fez*, is in the middle of a Plain, where for 1000 paces, there is only *Gardens* filled with excellent Fruits. The City is well built, its *Streets* large and well ordered. Its *Inhabitants* liberal, and civil, but alwaies in jealousie against those of *Fez*. Divers *Aqueducts* bring water to the City, and furnish the *Temples*, *Bains*, *Hospitals* and *Colledges*; and private Houses.

Province of *Asgar.*

Asgar is a Province between the Rivers of *Suba*, and *Lusus* or *Lixa*, on the Coast; it extends itself far up the Land, towards the City of *Fez*, and hath fair and fertile Fields, with an Air so pleasant, that formerly the Kings of *Fez* passed here a part of the Spring in Hunting. 1. *Elgiumba* or *Elgiubma*, in the way from *Fez* to *Larrache*, and formerly the fairest of the Provinces; serves now only as the *Granary*, where the *Arabs* store up their Corn. 2. *Casar-el-Cabir*, a place of pleasure which *Mansor* caused to be built between the *Fens*, the *Forests*, the *Sea*, and the *River*, may now have about 1500 Houses, adorned with a stately *Hospital*, a *Colledg*, and many *Temples*. The Battel which *Don Sebastian* King of *Portugal* lost, was here fought. In which it is observable, that the three Chiefs of the Armies, which that day met, all died, *viz.* *Don Sebastian* of *Portugal*, in the field of the Battel; *Muley Mahomet* of *Fez*, in favor of whom *Don Sebastian* passed into *Africa*, was drowned passing the River of *Mucazin* to save himself in *Arzile*; and *Abdelmelech* of *Morocco*, the Conqueror, died with labour and pains, or with the sickness with which he was seised before the Battel; all three competitors for this Kingdom; with several others of eminent quality. 3. *Lharas* or *Larrache*, once *Lixos*; which some among the Ancients say, was greater then the *Great Carthage*, and hath made the Royal Residence of *Antæus*, whom *Hercules* defeated, and from whence he brought the *Golden Apples*, gathered in the *Hesperides Gardens*. It is at present one of the principal Fortresses of the Kingdom, and hath often been attempted by the *Portugals* and *Spaniards*.

Province of *Habat.*

The Province of *Habat* is part on the *Ocean*, part on the *Mediterranean Sea*, and holds all the streight of *Gibraltar* on the *African* side, opposite to *Spain* in *Europe*.

The principal Cities of this Province are, *Arzila*, which the *Portugals* took in 1471, carrying away all its inhabitants, and among the rest *Muley Mahomet el Oataz*, then seven years old, after King of *Morocco*, who remembring more his imprisonment, then the liberty he had from *Spain*, in the year 1508 raised 10000 *Moors*, besieged, and took the City of *Arzila*, and the *Castle*, the *Portugals* hardly defending themselves in a *Tower*, which was yet relieved, the *City* and *Castle* retaken, and the *Moors* well beaten. The *Portugals* afterward, and under some pretext, abandoned this place, which *Muley Mahomet* called the *Black*, returned it to *Don Sebastian*, King of *Portugal* in 1578, but which the *Xeriffs* retook again, and do at present possess. The City is great and strong, with a Port on the Ocean; the soyl produces more fruits and Pulse, then Grain and Wood. 2. *Tangier*, of old *Tingis*, hath been the most famous among the Ancients, builded, as they say, by *Antæus*; and so renowned, that the neighbouring *Mauritania* took from it the name of *Mauritania Tingitana* and the Streight, of *Fretum Tingitanum*; yet were its *Bishop* and *Government* united not long since to that of *Ceuta*, where they had their residence, till the dis-union of the Estates of *Portugal* and *Castile*; *Ceuta* remaining in the hands of the *Spaniards*; *Tangier* and *Cazar Ezzaghir* returning to the *Portugals*. The former of the two last is now delivered into the hands of the *English* upon the marriage of *Donna Catharina*, *Infanta* of *Portugal*, with our Soveraign Lord King *Charles* the Second, of happy memory. Where we have a good Fort and Mold, for the convenience of shipping; by which means, it may be in time a place of a considerable Trade. It is made a very strong place since the *English* have been masters of it, and doth contain about 1500 Houses well built; they have pleasant Gardens. Near to this place it is said, that *Hercules* overcame *Antæus*, a monstrous *Giant* of 64 Cubits high. 3. *Tetuan* or *Tetteguin*, hath not above 800 Houses, which are as well built as any in *Barbary*; and a good part of the *Mobrs* driven from *Granada*, being retired thither, it is maintained in a good estate; they are continually courring on the Sea, and keep many Christians their Slaves.

In this Country are abundance of other Cities, though of no such considerable note as those aforementioned. Its Mountains which are counted about 8, are inhabited by the Tribes of *Gumera*, who drink Wine, though contrary to the Law of *Mahomet*, and pay some 3, some 4, others 6000 Duckats yearly. That of

of *Rahon* hath *Vineyards*, and its *Inhabitants* make quantity of *Sope* and *Wax*. *Benifensecare*, besides its *Wax*, yields *Hides* and *Linnen-Cloth*; and on its *Srturday Markets*, the *Christians* muy *Trade*. *Benihurus* is almost dis-inhabited, by reason of the Neighborhood of *Gazar Ezzaghir*, under whose government it hath been. *Chebib* on the contrary, is much augmented, after that the *Portugals* took *Tangier*, the ancient *Inhabitants* of this retiring thither. *Benicheßen* hath its *Inhabitants* addicted to *Arms*; as likewise *Quadres* near the Streight, and *Bemguerdarfeth* near *Tittuan*, to whose government they are obedient, serving against the Garrison of *Ceuta*. They have formerly furnished the Kings of *Granada* with a great power, and among them with one *Helul*, whom their *Poems* and *Romances* esteem the terror of all *Spain*. *Angera* hath *Flax*, of which they make *Linnen-Cloth*; as also *Timber* fit to build Ships.

Province of *Errif.*

Errif above the *Mediterranean Sea*, and between the *Rivers* of *Gomer* and *Nochor*, advances it self in the Land as far as the Mountain which separates it from the Provinces of *Fez* and *Chaus*. It is very Mountainous and Woody; it is little fruitful in *Grain*, abundant in *Barley*, *Vines*, *Figs*, *Olives* and *Almonds*: Hath quantity of *Goats*, *Asses* and *Apes*; few *Sheep* or *Oxen*. The Houses are only of one Floor, and ill covered; the *Inhabitants* are valiant but much addicted to drink. Its Cities are almost all on the Coast, as *Gomer*, *Terga*, *Bedis*, *Mezemma*, and others. The most part ill inhabited by reason of the Neighborhood of the *Spaniards*. 1. *Gomer* is seated on a River of the same name, 2. Those of *Terga* use much Fishing, uttering their *Salt-Fish* to the *Inhabitants* of the Mountains; but at present almost quite deserted. 3. *Bedis* or *Belis*, with its *Castle*, its *Palace*, and its *Port*, is in some esteem, and maintains some *Gallies*: But much molested by the Fort of *Pennon de Velez*, which the *Spaniards* hold in an Island not above 1000 or 1200 paces from *Bedis*. 4. *Mezemma* seated on a Mountain, formerly great and well peopled, hath now nothing but Walls. The Mountains have *Vines*, *Barly*, *Horses*, *Goats*, *Fruits*, *&c.* Some pay some tribute, and others none at all. That of *Beniguazeval* can arm 25000 men, hath quantity of *Towns*, and a City famous among them, and a *Volcano* which continually casts forth fire. *Susaon* is one of the most fruitful and most pleasant places of *Africa*. Its people under their *Xeque* keeping themselves in liberty.

Province of *Garret.*

Garret possesses the rest of the Coast upon the *Mediterranean Sea*, unto the River *Mulvia*, which separates it from *Telansin*. *Mellila* hath been its chief City, at present in the hands of the *Castilians*; as is *Ghasasa*, and both the one and the other have their Port; that of *Mellila* much better, and may count 2000 Houses, serves as a passage to the Traffick between those of *Fez*, and the *Venetians*. There are excellent *Mines* of *Iron* in the neighborhood. The middle of this Province is Mountainous. Its extremity towards the South, joyning to the Province of *Chaus*, is untilled, and without Water.

Province of *Chaus.*

The Province of *Chaus* is so great, that it contains a third part of the Kingdom: The Rivers of *Cebu* or *Suba*, of *Mulvia*, of *Nocor*, and some others have here their Springs at the foot of divers Branches of the *Atlas*. This Country is but meanly inhabited, considering its bigness; and its people fierce and warlike, to which they are addicted, not caring much for Traffick or Tilling their Ground, which if well ordered, would produce several good Commodities. Among its Cities, *Tezza* is the chief, and is esteemed the Third of the Kingdom of *Fez*, and makes no less then 5000 Houses. The Nobility have here many rich *Palaces*, but the private Houses are not fair. It is adorned with 3 *Colledges*, 23 *Baniaes*, many *Hospitals*, about 100 *Mosques* or *Temples*, among which there is one greater, though not richer then that of *Fez*. It hath a magnificent *Castle*, and the Kings *Marins* sometimes made here their residence, and gave it to their second Son; as well becaufe of the beauty of the City, and the civility of its *Inhabitants*; as for the goodness of the Air, and the abundance of all sorts of Fruits, which they gather there. 2. *Turet* is beyond the River *Mulvia*, and on the River *Quhas*; so advanced on the Frontiers, that the King of *Fez* and *Telensin* have often carried it, the one from the other. It is seated on a Hill in the

the midst of a Plain, but encompassed about with *Desarts*, very advantagiously inclosed with strong *Walls*; well built within, and filled with about 3000 Houses. 3. *Dubdu* is on the side of a high Mountain, from which many Fountains descend, and run through the City. 4. *Garsis*. And 5. *Haddaggia* are on the *Mulvia*. 6. *Gherselvin* only is beyond the *Atlas*, and on the borders of *Segelleſſe*, it is handsom within, but beautiful without, &c.

The Inhabitants of its Mountains.

Among the *Inhabitants* of the *Mountains*, there are some rich, who pay little or nothing; others poor and over burthened with Tribute. The Plains of *Sabhelmarga*, hath almost nothing but *Charcoal-men*, by reason of the adjacent *Woods*; that of *Asgari-Cameren*, *Shepherds*, because the *Grass* grows all the year; that of *Guregra*, *Husbandmen*, the Land being proper for *Grain*.

A strange Bridge.

In this Province there is a remarkable *Bridge* over the River *Sebu*, which runs between Rocks so high, that this *Bridge* is 150 yards from the Water. It is a *Basket* or *Pannier* hung upon two Cords, which turn upon two Pullies fastned to the ends of two great Piles of Wood, on each side of the Valley: And those who are in the *Basket* (there may go about ten persons) draw themselves from one side to other by the Cords which are made of *Sea-Bulrush*, as well as the *Basket*.

The Country of *Fez* and *Morocco* of a different nature.

The Kindoms of *Fez* and *Morocco*, ought to be considered in four sorts of Lands, *Mountains*, *Vallies*, *Plains*, and *Coasts*; and the most part of their Provinces have these four sorts. The *Mountains* are almost all in the hands of the *Arabs* and *Bereberes*, who live partly free, partly tributary. The *Vallies* are almost all the same, according as they are more or less engaged in the *Mountains*, or near the *Plains*. The *Plains* are all obedient. The *Coasts* in part belong to the Kings of *Fez* and *Morocco*, in part to the *Portugals* and *Spaniards*; these holding what is on the *Mediterranean Sea*, the others on the Ocean. So that considering the Continent of these two Kingdoms, even when they were united, there was always a quarter or third part which obeyed not the *Xeriffs*, or Kings of *Fez* and *Morocco*. But if they had been absolute in these two Kingdoms, they might easily have brought into the field One hundred thousand Horse, and more then so many Foot.

The *Moors* of this Kingdom, and their disposition.

The *Moors* of *Fez* and *Morocco*, are well disposed, strong, Active, and yet melancholly; they may marry four Wives, and repudiate them when they will, giving them the Dowry they promised when they espoused them. And if they would be rid of them better cheap, they treat them ill; and these Women may forsake their Husbands, quitting their Dowry. Besides these four Wives, they may have as many *Concubines* as they can keep; but the Law permits them not to lie but with the one or the other of the four Wives. Persons of Estate spend so much on their Weddings, that they say commonly, That the Christians spend the greatest part of their Goods in *Law-suits*; the *Jews*, in their *Paschal-Feasts*; and the *Moors* in their *Nuptials*. They enterr their dead in *Virgin-Earth*, that is, where no person hath been before enterred, fearing least at the general Resurrection it should be difficult to unmix all their pieces.

Arabs here inhabiting which much annoy the Countrey.

Besides these *Moors*, in the Estates of *Fez* and *Morocco*, there are many *Arabs* which go by *Cabilles* or *Lineal Descent*; and which make War and Peace as they please, between themselves, and with the *Moors*: Wandering continually, and pillaging now one Coast, and then another. They either assault or convoy the *Caravans* according to their interest; sometimes serving the Kings of *Morocco*, sometimes making War upon them. Those that are in the highest Mountains of *Atlas*, are so rude and barbarous, that the Ancients have believed them to be *Satyrs*, *Paus*, *Ægipans*, that is, *Half Devils*. In some Cities there are quantity of *Jews*; almost no *Christians*, except they be Slaves, or some *Merchants*.

The

The Kingdom of ALGIER *and* TELENSIN.

The Kingdom of *Algier*.

THE Kingdom of *ALGIER* is at present the most famous, or rather the most infamous on the whole Coast of *Barbary*: As well for its Riches and Forces, as for those Pyracies it exercises towards the *Christians*, and the barbarousness it useth towards its *Captives*.

Its name is taken from the principal City, seated in the midst of its Coast on the *Mediterranean Sea*; towards the West, it is separated from the Kingdom of *Fez*, by the Rivers of *Zhas* and *Mulvia*; towards the East, divided from that of *Tunis*, by the *Guad-il-Barbar*. The Northern Coast is washed by the *Mediterranean Sea*; the South confined by the Mountains of *Atlas*, which divide it from *Segelmesse*, *Tegorarin*, and *Zeb*, parts of *Billedulgered*. Its length from West to East, is near 300 Leagues, its breadth 50, 60, or 75 Leagues.

Its Division and parts.

We will divide it into five parts, of which that of *Algier* shall make the middle one; *Telensin* and *Tenes* shall be on the west; *Bugia* and *Constantina* on the East. The *Turks* (as *Grammajus* saith) hath established 20 Governments; whereof 10 are on the Coast, and 10 others within Land. On the Coast there are 5 Westward of *Algier*, and 5 Eastward of *Algier*. *Sargel*, *Tenes*, *Marsalquibir*, *Hunain*, and *Haresgol*, advance towards the West: *Algier*, *Bugia*, *Gigeli*, *Constantina*, and *Bona*, towards the East. Of the 10 Governments which are within Land, *Grammajus* places 6 in the Mountains of *Telensin*, or *Benrasid*, *Tenes*, *Algier*, *Bugia*, *Constantina*, and *Bona*. These names of Mountains being taken from Cities, neighboring on them, and almost all on the Coast. The 4 Governments remaining are, *Steffa*, *Necab* or *Necaus*, *Mezella* or *Mesila*, and *Mustin*, which are the names of their chief places.

But *Grammajus* not contenting himself with this division within Land, makes yet other 10; of which, 4 he calls Kingdoms, and which are only Tributary. *Huerguela* or *Guergela*, *Cuco*, *Tricarta* or *Techcort*, and *Labes*. 2 *Provinces*, *Beniraſid*, and *Tebeſſe*. 2 *Dynasties* or *Signiories*, *Meliana*, and *Angat*: And likewise 2 *Kingdoms* subject, *Telensin* and *Tenes*. Of these 10 pieces, *Telensin*, *Angat*, *Benirori*, *Tenes* and *Meliana*, are towards the West; *Coco*, *Labes* and *Tebeſſe*, towards the East; *Guerguela* and *Techcort*, far towards the South.

These 2 last are so engaged in *Billedulgerid*, that I cannot well describe them with the Kingdom of *Algier*, though they be Tributary to it. And the *Governments* or *Provinces* within Land, are so near, and sometimes so engaged with those of the Coast, that I will not change the order I have taken to consider this Kingdom in 5 principal parts; in each part observing the *Governments*, *Provinces* and *Kingdoms* therein. *Hunain*, *Haresgol* and *Marsalquibir*, on the Coast; *Telensin*, *Hanghad* and *Beniraſi*, within Land, shall compass the quarter of *Telensin*. *Tenes* and *Sarsell*, on the Coast, and *Meliana*, within Land, shall be the quarter of *Tenes*. *Algier* on the Coast, and *Cuco*, within Land, that of *Algier*. *Bugia* and *Gilgili*, on the Coast, *Stefe*, *Labes*, *Necaus* and *Mesila*, withing Land, that of *Bugia*. *Bona* on the Coast, *Constantina* and *Tebeſſe*, within Land, that of *Constantine*.

Province of *Telensin*.

The City of *Telensin*, which those of the Country now call *Tremecen* and *Tilmisan*, hath once been chief of a Kingdom of the same name; of which, the *Provinces* of *Telensin*, *Tenes*, *Algier* and *Bugia*, were the parts. The City is not above seven or eight Leagues distant from the *Sea*: It hath been one of the greatest and fairest of all *Barbary*. This may appear in that there remains but eight *Mosques* of consideration, it having had 250; but four *Bania*'s of 160; but two *Inns* for the *Franks*, and four for the *Moors* of 34; but six *Hospitals* of thirty or forty. It had 16000 Houses about the year 1000, 20000 about the year 1200, 25000 in the year 1550, and the *Jews* had ten great *Synagogues*. The divers changes which it suffered, and the rude treatment which they received from the *Turks*, hath made many of its *Inhabitants* retire into *Fez*, and some other where, which hath reduced it low. That which remains, is

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magnificent, its Houſes better built, its *Streets* more large and ſpacious, its *Gardens* more embelliſhed: Its People more civil, and its *Merchants* of better credit then thoſe of *Algier*. It hath a *Cittadel* built after the *Modern Fortifications*. 2. *Humain*, which others call *Humanbar* and *Unhaim*, is the ancient *Artifiga*. Its Port is not great, but good; its Land hath much *Figs*, *Oranges*, *Citrons*, *Pomgranates* and *Cotton*; of which, the *Inhabitants* make divers *Manufactures*. In 1535 this place was ruined by the *Caſtilians*, and not reſtored till long after. 3. *Hareſgol* is the ancient *Siga*, a *Roman* Colony, the reſidence of *Syphax*, (ſometimes King of this Country) before he ſeiſed the Eſtates of *Maſſaniſſa*: Its ſcituation is on a Rock, whoſe foot is waſhed by the *Sea*, and hath no communication with the firm Land, but on the South ſide. This City hath been much greater then it is; the takings and retakings which it ſuffered by the Kings of *Fez*, by the *Califfs*, by the *Moors*, by the *Caſtilians*, and by the *Arabs* reduced to the eſtate it at preſent under the Kings of *Algier*, who kept a Garriſon in its *Caſtle*. 4. *Oran* and *Marſa-el-Quibir*, which belongs to the *Marquiſate* of *Oran*, are in the hands of the *Catholick* King. *Oran* which the *Africans* call *Tuharan*, the *Arab* of *Nubia*, *Vaharan*, is the *Cuſa* of the ancients; and *Marſa-el-Quibir*, there *Portus Magnus*, ſince this name ſignifies, the great *Port*. This was taken by the *Marqueſs* of *Comares*, in the year 1505; the other by the *Cardinal Ximenes*, in the year 1509. At the taking of this laſt, the *Caſtilians* loſt only 30 men, killed 4000 *Moors*, and delivered 20000 *Chriſtian Captives*. This City of *Oran* before it was taken, had above 6000 Houſes, abundance of *Temples*, *Hoſpitals*, *Canes*, *Bania's*, &c. and had ſometimes been the reſidence of the *Catholick* Kings: The *Venetians*, *Genoueſe*, *Catalonians*, &c. having here ſo great a Trade, that its riches and power inclined its *Inhabitants* to deny Tribute to the Kings of *Telenſin*, and to make ſome incurſions on the Coaſt of *Spain*, which was the cauſe of their loſs. At preſent it is a *Suffragan Biſhoprick* to the *Archbiſhoprick* of *Toledo*; it hath ſome *Convents* and *Hoſpitals*, among others one very rich. It is ſtrongly ſeated on the *Mediterranean Shore*, powerfull at *Sea* in their *Gallies*, and is a place of ſome Trade, affording moſt of the Commodities the Country produceth. 5. *Maſalquibir* hath one of the faireſt, greateſt and moſt ſecure Ports that is in all *Africa*. The Government or *Marquiſate* of *Oran* comprehends likewiſe ſome *Caſtles* and *Mountains*, where there are good Garriſons which keep the Neighborhood in jealouſie. *Mazagran* with its *Caſtle* on the Coaſt, is in the hands of the *Moors*.

Humain,

Hareſgol

City of Oran.

Marſalquibir.

Province of *Anghad*.

The Quarter of *ANGHAD* or *RANGUAD*, though for the moſt part deſart, yet hath ſome fertile places, where are the Cities *Guagida*, and others. *Guagida* hath yet about 3000 Families, its Land fruitful in *Grains*, and watred with many *Rivers*. The Deſart is poſſeſſed by the *Arabs*, and amongſt them many *Lions*, *Wild-Boars*, *Stags*, and above all *Oſtriches*, in hunting of which, the *Arabs* often exerciſe themſelves, making profit of their Feathers, eating their Fleſh, and currying their Skins to carry their *Baggage* in. They keep the heart to make uſe of in *Charms* or *Witchcrafts*, the Fat to mix in their *Medicaments*, and the Nails or the Horn to make *Pendants* for the Ears, to deck themſelves with, when they utter the other parts.

Province of *Beniraſid*.

BENI-RASID or *BENIRAXID*, hath ſome Plains towards the North, many Mountains toward the South, is fruitful almoſt every where, and hath three or four places of ſome conſideration in theſe Mountains. 1. *Beni-Arax*, of Old *Bunebora*, is not walled, it contains more then 2000 Inhabitants. 2. *Calaa* or *Calat-Haoara*, of Old *Urbara*, between two Mountains, is ſtrong. 3. *Moaſcar*, of Old *Victoria*, hath a *Caſtle* where the Governor of the Countrey reſides. 4. *Batha*, of Old *Vaga*, on the River *Mina*, having been ruined by the *Inhabitants* of the Mountain of *Guanſeris*, ſome *Morabut* out of their opinion of his ſanctity, reſtored it in *Anno* 1520. And 5. *Medua*.

The

Province of *Tenes*, its chief places, fertility and people.

The Province of *TENES* is between that of *Telenſin* and *Algier*, to whoſe Kings it hath been ſubject ſometimes to one, and ſometimes to others, and ſometimes it ſelf hath born the Title of a Kingdom. Its principal places on the Sea are, *Teneſa* and *Sargel*; within Land, *Meliana*: 1. *Teneſa*, part on the ſide of a Hill, and part on a Plain deſcending to the Sea; hath a *Caſtle* and a *Palace*, formerly the abode of its Kings or Lords, now of its Governours: Its Inhabitants are addicted to Traffick. The Country, both in the Mountains and Plains, yields them *Grains*, *Fruits*, *Hides*, *Wax*, *Hony*, and ſome other Commodities. 2. *Briſcha*: and 3. *Serſela*, Eaſt of *Tenneſa*, and between *Tenes* and *Algier*, have many *Roman* Antiquities. The firſt is the ancient *Icoſima*; the other is *Ruſubricari*. This hath ſuffered divers Ruins; the *Moors* driven from *Granada* rebuilt it, and enriched it with their Piracies, with their *Silks* and *Fruits*. The Inhabitants both of the one and the other, are for the moſt part *Weavers*. 4. *Meliane*, or *Milliana*, is on a Mountain, where yet the moſt part of the Houſes have their *Fountains* and *Wall-nut Trees*. 5. *Mezume*, is adorned with a *Caſtle*, a *Palace*, and a fair *Temple*. 6. *Teguident* hath a large circuit, which had been empty, had not ſometime ſince a *Marabut* repeopled it. Theſe two places are by ſome eſteemed in the Quarter of *Telenſin*. Among the Mountains *Beni-Abucaid*, is near to and of the appurtenances of *Tennes*. *Guanſeris* can ſet forth 2 or 3000 Horſe, and 15 or 16000 Foot.

The Quarter of *Algier*, and its parts and places.

The Quarter of *ALGIER* comprehends likewiſe that of *Couco*, in the Mountains of *Eguiel-Vandaluz alias Couco*, and *Tubuſuplus*, which is the principal place, built on the top of a Rock, craggy on all ſides. It may contain about 1600 Houſes: the Kings or Lords of the Country reſide here, and have oft diſputed their liberty with the Kings of *Algier*. Theſe Mountains are two or three days Journey long, and their approaches very difficult: They yield *Olives*, *Grapes*, and eſpecially *Figs*, of which the King makes his principal Revenue; *Cattle*, *Iron*, *Saltpeter*; and the Plains afford *Corn*, and every where Springs of Running-water. The People are *Bereberes* and *Azuages*, well armed and couragious. The Metropolis of the Kingdom is *ALGIER*, at preſent the moſt famous place of all the Coaſt of *Barbary*, either for its Riches and Power, or for the extent of its Eſtates. It is ſeated on the declenſion of a Mountain in form of a Triangle, ſo that from the Sea all its Houſes appear one on the top of another, which renders a moſt pleaſant proſpect to the Sea. Its circuit is not above 3400 Geometrical paces, fortified with ſome ill-diſpoſed *Baſtions*; but the Iſland, which was before it, is joyned to the City ſome years paſt; where is built a *Pentagone*, the better to ſecure the Port and Iſland, and keep it from being fired, as in 1596, 1606, &c. It is a City not ſo large as ſtrong, and not ſo ſtrong as famous: Famous for being the receptacle of the *Turkiſh* Pirates, who ſo much domineer over the *Mediterranean Sea*, which too often proves to the great damage of all Merchants who frequent thoſe Seas. This City hath at preſent 12 or 15000 Houſes; it had not when *J. Leon* of *Africa* wrote above 4000. The Streets are but narrow, but the Houſes fair and well built, yet one which runs along the Sea is fair and large; they count 100 *Moſques*, whereof 7 are very ſumptuous; 5 Houſes or Lodgings of *Janizaries*, capable to hold each of them 600 Men; 62 *Bania's*, of which two are very beautiful; 100 Oratories of *Turkiſh Hermits*, and almoſt as many publick *Schools*. Out of the City are many Tombs of *Turks*, *Moors*, and *Jews*; the burying place of the *Chriſtians* is without ornament. Among theſe Tombs is remarkable that of *Cave*, Daughter of *Julian*, Earl of *Bæthica*, who having been raviſhed by *Roderic* King of the *Goths*, was the cauſe of the *Moors* deſcent into *Spain*. It hath almoſt no more Suburbs, the City being encompaſſed with many Hillocks and riſing Grounds, whoſe ſides and Vallies are covered with 12 or 15000 fair Gardens, abounding with ſtore of pleaſant Fruits, with their Fountains and other places of delight. Beyond theſe Hills is the Plain of *Moteja*, 15 or 16 Leagues long, and 8 or 10 broad, very fruitful in Grains. This place is famous for the Shipwreck which *Charles* the Fifth here ſuffered,

The City of *Algier* deſcribed.

Here *charles* the Fifth suffered Shipwreck.

who beſiegingt his Town, loſt in its Haven at one Tempeſt (as *Heylin* noteth,) beſides a great number of *Karvels* and ſmall *Boats*, divers ſtrong *Gallies*, 140 *Ships*, a great many Pieces of *Ordnance*, about half his *Men*, and ſuch great quantity of gallant *Horſes*, that in *Spain* they had almoſt like to have loſt their race of good and ſerviceable *Horſes*.

The Cities, 1. *Temeudfuſta*, about 7 or 8 Leagues from *Algier*, with a good Port: and, 2. *Teddeles*, 18 or 20 are the beſt places of the Coaſt: the firſt anſwers to the ancient *Jomnium Municipium*, the other to *Ruſipiſir*; likewiſe *Municipium*. 3. *El Col de Mudejares*, of old, *Tigiſi*, is newly repeopled by the *Moriſque Mudejares* of *Caſtile* and *Andaluſia*; and the *Tagartins*, which were of *Valentia*: It is 8 or 10 Leagues from *Algier*, beyond the River *Selef*, which they here call the River of *Suffran*. 4. *Gezaira*, a City ſeated on the Sea-ſhoar. 5. *Menſora*: And 6. *Garbellum*, both Sea Towns.

The Fertility and People of *Algier*.

The Air about *Algier* is pleaſant and temperate: The Land hath excellent Fruits, as *Almonds*, *Dates*, *Oils*, *Raiſins*, *Figs*, ſome *Drugs*, &c. The Plain of *Moteſia* is ſo fertil, that ſometimes it yields 100 for one, and bears twice a year good Grains. In the moſt Deſart Mountains are found Mines of *Gold*, *Silver*, *Iron*, quantity of fierce *Beaſts*. The Country affords excellent *Barbary Horſes*, alſo *Eſtridge Feathers*, *Wax*, *Hony*, *Caſtile Soap*, &c. Beſides they have good quantities of moſt Commodities, which by reaſon of their Piracy they take from other Nations, to the great inriching of the place, moſt of the Inhabitants living by it, ſetting out Veſſels in Partnerſhip and ſharing the Gains, ſelling the Commodities and the Men they take as Slaves in open Markets. The Natives of *Algier* are fairer, and not ſo brown as the *Moors*; but the City is filled with all ſorts of Nations. The *Janizaries* make the greateſt part of the *Militia*: The *Turks* have the chief Trade, who are found to tranſport ſeveral Commodities to other Countries; but there are many of the *Moors* driven from *Spain*, and others who have retired themſelves from the Mountains; many *Arabs*, *Jewiſh*, and *Chriſtian Slaves*. The number of the Inhabitants of this City cannot be eſteemed by the 12 or 15000 Houſes it contains; for there are ſome Houſes where are found 100, 200, or 300 Perſons; the *Chriſtian Slaves* only amount to about 30 or 40000 within and about the City; and there are no leſs than 6000 Families of *Renegadoes*. But the Right Honourable the Earl of *Sandwich*, late General of the *Engliſh* Fleet, by order from King *Charles* the Second, put out to Sea with a Fleet of Ships, ſcoured thoſe Seas, forced them to deliver up all the Slaves, who were Subjects in any of the Kings Dominions, as well as *Engliſhmen*, and brought them to very honourable terms: By which they are not to ſeize or ſtop any *Engliſh* Ship, but give them free liberty of Trading where they pleaſe; and the like Peace is made with *Tunis*, and other of the *Turks* Territories: But theſe perfidious People ſoon violated it.

Province of *Bugia*, its chief places and fertility.

The Province of *BUGIA* is between the Rivers *Major* and *Sefegmar*. This on the Eaſt, that on the Weſt. On the Coaſt are two principal places, *Bugia* and *Ghegel*; in the Land are *Steffa*, *Labes*, *Necaus*, and *Meſſila*, in ſome conſideration. 1. *Bugia* is a great City, its circuit capable of 20000 Houſes, but hath not above 8000; but that which is uninhabited is Mountainous and inconvenient: It was built by the *Romans* on the ſide of a lofty Mountain, which regards the Sea; now the chief City of this Province. Its Streets and Houſes are in good order; it is adorned with many ſumptuous *Moſques*, ſome *Monaſteries* and *Colledges* for Students in the Law of *Mahomet*, and many fair *Hoſpitals* for the relief of the Poor: Its *Caſtle* is good and ſtrong, ſeated on the River *Guad al Quibir*, that is, *Great River*. 2. *Ghegel*, formerly famous, is now only a Borough of 500 ill-built Houſes. Its *Caſtle* is very good; its Land hath little *Corn*, ſtore of *Hemp*, *Figs* and *Nuts*. They hold this place to have been the beginning of the fortune of *Barbaroſſa*. 3. *Labez* makes a ſeparate Eſtate above *Bugia*, and conſiſts only in Mountains of ſo difficult acceſs, that the Kings of *Algier*, and the *Turks*, can ſcarce force them to pay Tribute. The chief Fortreſs of theſe Mountains, and the reſidence of their King or *Xeque*, is *Cabaa*. The others are, 4. *Coco de Teleta*; 5. *Tezli*, at the foot of the Mountain.

Theſe

Theſe Mountains have little Corn or Fruit; they can raiſe 5000 Horſe, 5000 Harquebuſiers, and 20000 Men, armed after their mode; all valiant, and better defenders of their liberty than thoſe of *Couco*. 6. *Necaus*. 7. *Meſila*, are beyond the *Abez*, but near the ſame River. *Necaus* is the moſt pleaſant place of all *Barbary*: It hath ſomething of particular in its publick Buildings, every Houſe hath its Garden ſo embelliſhed with *Flowers*, *Vines*, *Fruits*, and *Fountains*, that it ſeems a Terreſtrial Paradiſe. 8. *Chollum*. 9. *Gergelum*, &c.

Province of *Conſtantina*, its parts and chief places.

The Province of *CONSTANTINA* hath ſometime had its Kings. This is the New *Numidia*, of the Ancients the moſt Occidental part of the True *Africa*, and which touches on *Mauritania* to the Weſt, the River *Sugefmar* making the ſeparation. This Province comprehends three quarters, of which that of *Conſtantina* extends to the Sea, and a good way in the Land; that of *Bona* likewiſe on the Sea, but little on land; that of *Tebeſſa* is farther in the Land, touching on *Billedulgerid*. 1. *Tebeſſa*, formerly *Thebeſte*, ſurpaſſes (as they ſay) all other Cities of *Barbary* in three things: In the force of its *Walls*, beauty of its *Fountains*, and great number of its *Wall-nut Trees*. In counter-change its Inhabitants are brutiſh, its Houſes ill built, and its Air unwholſom. 2. *Bona*, of old *Hippo Regnis*; ill inhabited at preſent, part of its Inhabitants being retired into the Mountains: hath been famous to Antiquity for its greatneſs, but much more for its Biſhop St. *Auguſtine*, ſo famed among the Doctors of the Church. It hath ſuffered great changes under the *Romans*, *Vandals*, *Moors*, and afterwards under *Barbaroſſa*. 3. *Tabarca*, a City and Iſle is of this Government, likewiſe the Hills and Mountains of *Bona*, where are gathered much Fruits of *Jujubes*, *Grains*, and ſtore of *Cattle*; and the Coaſt hath red, white, and black *Corral*, which the *French* near to *Bona*, and the *Genoueſe* near to *Tabarca*, go to fiſh for. The Family of the *Lomolins* in *Genoua* having a Fortreſs in the Iſle of *Tabarca*, the *French* a Baſtion between *Tabarca* and the Point of *Maſcara*; the one and the other for the ſecurity of their Fiſhing and Commerce. 4. *Conſtantina*, which the *Moors* called *Cuſuntina*, the Ancients *Cirta Julia*, is a great City, not having leſs than 8000 Houſes. Its ſcituation on a Mountain, which hath but two Advenues, the reſt being Precipice, makes it ſtrong. The River *Sufegmar* waſhes the foot of the Mountain; its Caſtle ſtands to the North, *Collo* and *Sucaicada* (on the Coaſt) are under the Government of *Conſtantina*, likewiſe the Mountains which extend themſelves to the *Mediterranean Sea*, and to the confines of *Bona*. The Country about *Conſtantina* is fertil, its Mountains tilled. *Collo* hath its Inhabitants more civil than thoſe of *Conſtantina*, thoſe having no trade but with thoſe of *Billedulgerid*, the others with thoſe of *Europe*. The Inhabitants of the Mountains can raiſe about 40000 Men, and maintain themſelves almoſt in liberty, both againſt the Kings of *Algier* and the *Arabs*. 5. *Cirta*, in the *Roman* Hiſtory, was the reſidence of many Kings of *Numidia*; among others of *Maſſiniſſa*, afterward of *Syphax*, who drove *Maſſiniſſa* from his Eſtates, and ſettled himſelf at *Cirta* with his Wife *Sophoniſba*, who had been promiſed to *Maſſiniſſa*. This Woman a little after having perſwaded *Syphax* to favour *Carthage*, of which ſhe was againſt the *Romans*; drew their Arms into his Eſtate, where *Scipio* defeated and took *Syphax* Priſoner, *Maſſiniſſa* beſieged, and took *Cirta* where *Sophoniſba* was; who had ſo many attractions, and ſo much cunning, that in the ſame day ſhe beheld her ſelf Captive and Wife to *Maſſiniſſa*: But ſhe killed her ſelf ſoon after, that ſhe might not fall into the *Romans* hands, and be led in Triumph through *Rome*. 6. *Stora*: and, 7. *Mabra*, both Maritim Towns.

The City of *Tebeſſa*.

The City of *Bona*.

The City of *Conſtantina*.

The City of *Cirta*.

The Kingdom of TUNIS.

The Kingdom of *Tunis*, and its division into Governments.

THE Kingdom of *TUNIS*, besides its particular Province, hath sometimes extended it self over *Constantina* and *Bugia* on one side, and over *Tripoli* and *Ezzab* on the other. At present it hath only its own Province, and something in *Billedulgerid*.

This Kingdom of *Tunis* is divided into 4 Maritim Governments, and 3 or 4 Inland ones. The Maritim are, *Biserta*, *Goletta*, *Sousa*, and *Africa*; *Begge*, *Urbs*, *Cayroan*, and part of *Billedulgerid*, are the third or fourth within Land. Altogether extend themselves from the River *Guad il Barbar*, unto that of *Capes*: this separating them from the Kingdom of *Tripoli*, the other from the Province of *Constantina*.

The chief Rivers of *Tunis*.

The River *Guad il Barbar*, or *Hued il Barbar*, takes its source near *Urbs*, which it waters with a Channel made on purpose, and discharges it self into the Sea near *Tabarca*. In its course it makes so many turnings and windings, that it must be passed 25 times in the Road between *Bona* and *Tunis*, and that with much difficulty and danger, there being no Bridges, and scarce any Boats to Ferry over. The River *Capes*, of old *Triton*, descends from *Billedulgerid*, and waters at first a very Sandy Country, leaves *Capes* on the Right, and on the Coast of *Tripoli*, and disburthens it self into the Little *Syrtes*, now the Gulph of *Capes*. *Magrada*, another River, hath its Spring likewise in *Billedulgerid* on the Confines of *Zeb*, which it waters in part, washes *Tebessa* of the Province of *Constantina*, cuts the Kingdom of *Tunis* into two almost equal parts, and disburthens it self in the Sea near *Garilmesse*, between *Tunis* and *Hammamet*. Its increases are sometimes extraordinary, and all of a sudden, so that Travellers are often forced to wait some days for a passage.

The Government or City of *Benserta*.

BENSERTA, of old *Utica*, is a City but of an indifferent greatness, but strong, and peopled with about 6000 Families. It looks Eastward on a Gulph so called, which is about 16000 Paces long, and 8000 broad. Here is a fair *Burse* or *Exchange* for Merchants; two great *Prisons* for their Slaves, and some *Bastions* to defend the Port, which is good and large. This place is famous for the death of *Cato*, sirnamed *Uticensis*, who for fear of falling into the hands of *Cæsar*, here slew himself; and is of note in the *Carthaginian* Wars.

The Government or City of *Goletta*.

The Government of *GOLETTA* is much esteemed, because of the neighbouring *Carthage*; or rather because of *Tunis*, whose Key it is. It is a Fortress built in the neck of the Gulph between *Tunis* and the Sea, by which all must necessarily pass: And it hath given occasion to build a Fort on the top of a Hill, whose foot is washed by the Sea. There was heretofore the old Fort, and the new; the Old was only an intrenched *Bastion*, guarded by 30 or 40 *Janizaries*; the New is great, well fortified and furnished with all things necessary. A Fountain of Running-water crosses the place, so that it seems rather a City than a Fortress. *Charles* the Fifth took this Fort in 1535, which the *Turks* retook in 1574. Under this Fort was it, that General *Blake* with the *English* Fleet, fired the Pirate Ships of *Tunis* in 1654. *Tunis*, at the bottom of this Gulph, is at present one of the fairest Cities of *Barbary*; it counts 8 Gates, 8 chief Streets, which are crossed by abundance of others, 10 Places or Markets, more than 300 Temples and Synagogues of the *Jews*, and many Oratories, some likewise for the *Christians*; 150 *Bania's* or *Hot-Houses*; 86 *Schools*; 9 Colledges, where Youth is nourished and instructed at the publick expence; 64 Hospitals, and a great number of *Canes* or *Inns* for *Merchants* and *Christians*, &c. The Buildings of the *Royal Palace* are magnificent; it had long since 10000 Houses, and is much increased since the *Moors* of *Granada* were driven out of *Spain*. Among its Inhabitants are many *Merchants*, *Apothecaries*, *Druggists*, *Confectioners*, *Cooks*, *Bakers*, *Butchers*, and above all, *Drapers* and *Weavers*, &c. Their common Bread is kneaded with Oil, of

The City of *Tunis*.

which

which they have abundance, and utter quantity into *Egypt*. Their Linnen and Manufactures have vent through all *Africa*: It is a place of great Trasfick, and much frequented by Merchants of Foreign parts, affording several other good Commodities, as *Gold*, *Saffron*, *Wax*, *Oil*, raw and salted *Hides*, variety of *Fruits*, *Wool*, *Spunges*, *Hard Soap*; they have also a great trade for *Horses* and *Ostrich Feathers*, &c. and above all for *Christian Slaves*. Commodities most vendible here are, *English Cloths*, *Perpetuanoes*, *Iron*, *Lead*, &c. They have no Water either of Well or of Fountain, (except that which is reserved for the *Bassa*,) but make use of Cisterns and Rain-water: They are fain to have their Mills turned by their Slaves, or by Oxen. The *Arab* of *Nubia*, *Sanutus*, and some others, esteem *Tunis* to answer to the Ancient *Tarsis*. This place (as *Heylin* noteth) is observable in the History of the *Holy Wars*, for the Sieges and Successes of two of our *English* Princes, *viz. Edward* the First, in his Fathers life time, and *Henry* the Fourth, then but Earl of *Darby*; by both of which the City was forced to a composition. But the Ruins of *Carthage*, from which *Tunis* had its increase are remarkable, because of the Antiquity, Scituation, Greatness, and Power of this City. The beginning of it is given to *Dido*, the *Phœnician*, who inclosed with the Wall the Quarter or Castle of *Byrsa*, which is two miles and a half in Circuit, which in the Country they still call *Bersac*, and *Byrsa* signifying a *Hide* to the *Greeks*, and a *Fortress* to the *Phœnicians*; the one agrees with the Fable that *Dido* had bought, and builded the place on the greatness and extent of an *Oxes Hide*; the other, to the scituation and advantage of the place where this Fortress was built. This Scituation, and the goodness of the neighbouring Port, drew so many People, that it became one of the fairest Cities in the World. Its circumference in its splendor was 360 *Stadia*, like to that of *Babylon*, and its Inhabitants have been so rich and powerful, that they disputed with the *Romans* for the Empire of the World, being once called the Lady and Mistress of *Africa*. The particular power of this City was not known till the third and last *Punick* War; when after having had to do with *Massinissa*, to whom they yielded a good part of their Estates, after having granted and put into the *Romans* hands their *Ships* of War, their *Elephants*, their *Arms*, and their *Hostages*, which were demanded: when they commanded them to leave the City, and to inhabit from the Sea-Coast, despair made them resolve on the War. They made other Arms, built new Ships, the Women and Virgins giving their Hair to make Cables and Cordage, and defended themselves yet 3 or 4 years. It was afterwards restored, and at divers times; but the *Vandals*, and in the end the *Arabs*, have wholly ruined it, there not remaining above 7 or 800 Houses of *Fishermen*, *Gardiners*, &c.

Its Trade and Commodities.

Tunis received its splendor from the ruins of *Carthage*.

The Government of *SOUSA* contains the Cities of 1. *Hammametha*, which communicates its name to the neighbouring Gulph, at the bottom whereof it is scituated; its Walls are strong, and its Harbour safe. 2. *Susa* is in a higher and lower City; the former on a Rock, and of difficult access; the last on the Sea, with a good Port, where are laded great quantities of *Oils*: both the one and the other well built. The Duke of *Savoy* made an enterprize on them in 1619. 3. *Monastero*, so called, because there was once a famous Monastery of the Order of *St. Augustine*. The Riches about *Susa* is in *Olives*, *Pears*, and other Fruits and Pastures for Cattle. The ordinary Food for the Inhabitants is *Barly-bread*, the Country affording no other Grain. The Inhabitants of *Susa* and *Hammametha* addict themselves to Traffick, others to Whitning of *Cloth*; they make *Charcoal*, and draw some profit from their Fishing.

The Government of *Sousa*, its Cities, People, &c.

The Government of *AFRICA*, or *EL-MADIA*, hath nothing considerable; but this place may be made far better than it is. Its scituation is in a *Peninsula*, which touches not the Main but by an *Isthmus* of 2 or 300 Paces, where there is likewise some Marsh; and on this side the City is invested with a double Wall and good Ditches. Its Port within the City is capable to lodge 50 *Gallies*; but its entrance is so narrow, that a *Galley* is forced to lift up its *Oars* to pass.

The Government or City of *Africa*, or *El-Madia*.

The

The Coasts about *Susa* and *Elmedia*, and what Transactions hapned there.

The Coasts about *Susa* and *Elmedia* have been well known in the *Roman* History, in the time of the Wars between *Cæsar* and the Party of *Pompey*. *Cæsar* landed at *Rhuspina*, now *Susa*, *Adrumetum*, now *Hammamet ha*, being in the Enemies hands; and in the beginning had divers little favourable encounters thereabout. In the end he happily defeated both *Scipio* and *Juba*, near to *Thapsus*, now *Elmedia*; and after that defeat, *Cato* despairing slew himself at *Utica*, now *Benserta*: *Scipio* saved himself in some Ships; but being met by *Cæsars* Fleet, passing his Sword through his Body, he precipitated himself into the Sea. *Juba* would have retired to *Zama*, where he had left his Wives, Children, and Treasures; but *Zama* having refused to open him the Gates, He and *Petrejus* retired into a House in the Fields, where they killed themselves. During this War, and almost upon the landing of *Cæsar*, hapned near *Hammamet ha* a thing incredible, which was, that 30 *Gaul-Horsmen* assaulted a Post of 2000 *Mooriſh Horse*, put them to rout, and pursued them into the City.

For *Zama*, or *Zama Regia*, it is far distant from the position which *Ptolomy* gives it, and from that of *Ortelius*, which we at other times, and which all others have since followed. This Author places it 500000 Paces from *Carthage*, and 600000 from *Adrumetum*; but it appears both by the *Roman* History, and by the *Itinerary Table*, not to be distant from *Carthage* above 100, or 120000 Paces, and from *Adrumetum* 100000 Paces, or little more.

The Government of Cities of *Begge* and *Urbs*.

BEGGE or *Beja*, and *URBS*; this in the Road from *Tebessa* to *Tunis*, that in the way from *Constantina* to *Tunis*; are both seated in fair Plains, so fertil in Grains, particularly *Begge*; that those of *Tunis* say, that if they had two *Begges*, they would yield as many *Corns* as there is *Sand* in the Sea; and nigh to *Urbs* is *Camud*, *Arbes*, *Musti*, and *Marmagen*; all fair Cities.

The Government or City of *Cayroan*.

CAIROAN, of old, *Thesdrus*, ought as it seems to be among the Maritim Governments, since it holds on the Coast *Tobulba*, *Asfachusa*, and some other places; but its principal place being on the main Land, its Government is likewise esteemed to be within the Land. This City is seated in a Sandy-plain, which affords neither Grain, Fruit, nor scarce any Water but what is preserved in Cisterns; it is about 100 miles from *Tunis*, and about 36 from any part of the Sea. It was first built by *Hucha*, who was the first that conquered *Africk* for the *Saracens*; who adorned it with a stately *Mosque*, supported on Pillars of *Marble*, of which two or three are very fair ones, and of a prodigious greatness, who also placed in it a Colledge of *Priests*, and now in much esteem, being the residence of a *High Priest* of the Law of *Mahomet*: and to this place (from all parts of the Country) the Corps of their chief Men are brought to be interred; who believe, that by the Prayers of those *Priests*, they shall find a shorter way to Heaven, than if interred at any other place. Its Inhabitants are now reduced to about 4 or 500 Families. Not far from *Cayroan*, are the Mountains of *Zaghoan* and *Guesset*, the last not above 12000 Paces distant; both the one and the other have divers foot-steps of *Roman* Buildings. But I believe it was from the last that *Scipio* considered the Battel between *Massinissa* King of *Numidia*, and *Asdrubal* chief of the *Carthaginians*; and of this encounter *Scipio* would sometimes say to his Friends, That he was the third who had had the pleasure to see a famous Battel, without having run any resigoe; to wit, *Jupiter* from the top of Mount *Ida*, and *Neptune* from some eminence in the Isle of *Samothrace*, who beheld the Battels between the *Trojans* and *Greeks*; and himself this between *Massinissa* and the *Carthaginians*. The other Cities of this Kingdom of *Tunis*, and towards *Billedulgerid*, are *Caffa*, *Hama*, *Techios*, *Neifa*, and *Nafta*.

Mountains of *Zaghoan* and *Guesset*.

The

The Kingdom of TRIPOLI.

Kingdom of *Tripoli*.

THE Kingdom of *TRIPOLI* takes up the just moiety of the Coast of *Barbary* from *Capes* unto *Egypt*, and divides it self into two principal parts or Provinces, which bear likewise the Title of Kingdoms, to wit, *Tripoli* and *Barca*. *Tripoli* is between the two *Syrtes*, now the Sands or Banks of *Barbary*. These are Gulphs of different greatness, but of the same nature; infamous for the Shipwreck of Vessels lost on their Flats or Rocks: among which the depth of the Water is very unequal, and changes often, there being sometimes much, sometimes a little, and sometimes none at all. The Little *Syrtes*, now the Gulph of *Capes*, separates *Tripoli* from *Tunis*: The Great *Syrtes*, now the Gulph of *Sydra*, divides it from *Barca*; this towards the East, the other towards the West, and on the South it is bounded with *Billidulgerid*, and on the North with the *Mediterranean Sea*. Its principal Cities are *El-Hamma*, *Capes*, *Zoara*, the two *Tripolies*, Old and New, *Sarmana*, *Lepeda*, &c. 1. *El-Hamma* is in the Land, *Capes* and the rest on the Sea; between *El-Hamma* and *Capes* is a Lake excellent against Leprosie. 2. *Capes* of Old *Tacapa* hath good Walls, and a good Castle; but its Port dangerous, and incapable to receive either many or great Vessels; it is scituate at the fall of the River *Triton* into the Lesser *Syrtes*. 3. *Zoara*, of old *Pisida*, between *Capes* and *Tripoli*, hath its Land so dry, that the Inhabitants are forced to water it, and yet will scarce produce any thing save *Barley* and some *Fruits*; among which, *Lotos*, with which they make an excellent *Metheglin*, but it lasts good not above 9 or 10 days. *Flesh* is here very scarce, they not having wherewith to feed Beasts. The *Arabs* frequent their *Markets*, and serve them with *Wools*, wherewith they make *Cloaths* and other Manufactures. 4. *Tripoli* the Old, of old *Sabrata*, and which the *Arab* of *Nubia* calls the *Tower of Sabrat*, hath only some Hamlets, and Remnants of fair and stately Edifices. 5. The New *Tripoli*, of Old *Oea*, is better maintained, though it hath many Ruins, by reason of the divers changes it hath had. The disposition of its places, Streets, and the order of its Buildings is agreeable, being adorned with many fair *Mosques*, *Colledges*, *Hospitals*, &c. The Inhabitants subsisted only on their Commerce, which is of what they got from their *Palm-Trees*, *Lotos*, and *Linnen-Cloth*, which they uttered in *Africa*, *Sicily*, and *Malta*; besides their black and *Ethiopian Slaves*, which they sold; till of late they have much enriched themselves by Piracy, it being the usual retreat for Pirates, who infest these Seas, and do much mischief to *Christian Merchants* on the Coasts of *Italy*, *Sicily*, and elsewhere. 6. *Lepeda* is in some repute, as it was in the time of the *Arab* of *Nubia*, and more under the *Romans*: Farther is the Great *Syrtes*, at the bottom of which is the Isle *Sydra*, which communicates its name to the Gulph; and on the Firm Land are the Tombs of *Philenes* or *Aræ Philenarum*, which set the Limits between *Africa* and *Libya*; and afterwards between the Estates of the *Carthaginians* and the *Cyrenians*; and in fine, of the Eastern Empire against that of the West: And, 7. *Sebeicum*, a City near the Sea-shoar, nigh to which are three small Isles. Along the Coast are some Isles, among which that of *Gerbes* is well known; formerly it was joyned to the Firm Land by a Bridge. It had two Cities; now hath nothing but one Castle worth notice, and many Hamlets which gather little Corn, but much Fruits; among the rest *Lotos*, so sweet and pleasant, that the Companions of *Ulysses* having tasted them, sought no longer to go into their Country. This Isle hath about 18000 Paces circuit, yields one of the greatest Revenues to the King or Bassa of *Tripoli*, by reason of the confluence of Merchants, who fetch thence *Cloth* and divers *Stuffs*, and carry them to *Alexandria* in *Egypt*, &c. one of the principal parts of the Revenue of the same *Bassa*, is the *Saffron* of the Mountain of *Garian*, which is on the South of *Tripoli*: And this *Saffron* is found the fairest, and the best of all others.

Its chief places and people.

Tripoli, and the Trade thereof.

The Isle of *Gerbes* described.

BARCA.

BARCA.

Barca, on the Coasts of *Barbary* described.

THE rest of the Coast of *Barbary*, is now known under the name of *BARCA*; it is bounded on the East with *Egypt*, on the South with the Desart of *Nubia*, on the West with *Tripoli*, and on the North with the *Mediterranean Sea*, which is also some of its Western bounds. The Ancients called it particularly *Libya*, comprehending that which is farther in the Land, and which we call the Desart of *Barca*, and divided this *Libya* into the *Cyrenaick*, the *Marmarick*, and *Libya* Exteriour. This last being the nearest to *Egypt*; the *Cyrenaick* to *Tripoli*; and the *Marmarick* resting for the middle. Likewise the most Northern and Maritim part of the *Cyrenaick*, hath passed under the name of *Pentapolis*, because it had five fair Cities; to wit, 1. *Bernichum*. 2. *Torochara*. 3. *Ptolemais*, now *Ptolometa*: and 4. *Boni-Andreas*; and these four are on the Sea; the fifth, *Cayroan*, within Land. This, by much the most famous, was a Colony of the *Lacedemonians*, and hath yielded Learned Men: Its situation is on an eminence that discovers the Sea; and its Campaign, as of those other Cities, is moistned by divers Waters; and their Soil so fruitful, that some have esteemed the *Hesperian Gardens* with their *Golden Apples* about *Berenice*. Its other chief Towns and Cities are, 1. *Barca*, an Inland City of some account. 2. *Melela*. 3. *Careora*. 4. *Camera*. 5. *Zunara*. 6. *Avium*: and 7. *Saline*. All Maritim Towns and Cities, and of some account.

Battus gave the first beginning to *Cyrene*, and he and his Successors reigned near 200 years; after which the City was sometimes in Liberty, and sometimes under Tyrannism: Among which *Nicocrates* having put to death *Phædimus*, Husband of *Aretaphila*, to espouse her; she endured him sometime her Husband, and that until she had occasion to gain the Brother of *Nicocrates*, named *Leander*; to whom she gave her Daughter in marriage, and by his means rid her self of *Nicocrates*, and soon after (by the means of her Daughter) of *Leander* also, and so set the City at liberty; which endured till the time of *Alexander* the Great, when the Country fell to the *Ptolomies*, Kings of *Egypt*; afterwards, to the *Romans*, to the *Soldans* of *Egypt*, and to the *Turks*; having almost always followed the Fortune of *Egypt*. But at present *Barca*, not far from *Cayroan*, is the most famous of this Quarter, and hath given its name to the Kingdom. The *Arab* of *Nubia* makes much account of it in his time, and lays out divers ways, and gives the distances from this place to others farther in the Desart. Moreover this quarter of five Cities is called by some *Mesrata*, and its Inhabitants esteemed rich. They trade both with the *Europeans*, *Negroes* and *Abissines*, fetch from them *Gold*, *Ivory*, *Civet*, *Musk*, and *Slaves*, which they transport into *Europe*, besides their Native Commodities; and bringing from *Europe*, *Corn*, *Linnen*, *Woolen Cloth*, &c. which they carry to the *Negroes*, *Abissines*, and elsewhere. Its other chief places in the Kingdom of *Barca* are, 1. *Doera*. 2. *Forcella*. 3. *Salinæ*. 4. *Luchun*. 5. *Solana*. 6. *Musolomarus*. 7. *Cartum*. 8. *Albertonus*. 9. *Roxa*. 10. *Raibba*; and, 11. *Ripæalba*. All Maritim Towns and Cities; and most of which having good and commodious *Roads*, *Ports*, and *Havens*, and well frequented and inhabited.

The fertility of the Country, its Trade and Commodities.

Between *Cayroan* and *Alexandria*, there is on the Coast the Port of *Alberton Parætonium*, which is considerable both for its goodness and greatness: And sometimes the Ancients have called it *Ammonia*, because from hence was a way to the Temple of *Jupiter Hammon*. This Temple hath been very famous among the *Pagans*. *Bacchus* returning from *Asia*, which he had overcome, caused it to be built in honour of his Father, who under the shape of a *Ram* had shewed him, as he passed with his Army, where to find Water in those Desarts; and he first consulted the Oracle, and put it in such repute

repute, that divers other *Heroes* afterwards consulted it. *Perseus*, when he was sent to fetch the Head of *Medusa*, the *Gorgon*: *Hercules* going from *Mauritania*, where he had overcome *Antæus*, towards *Egypt*, where he was to defeat *Busiris*. *Alexander* the Great, to make it believed he was likewise the Son of *Jupiter*, and that the Empire of the World was design'd to him. But *Cambyses*, the Son of *Cyrus*, having a design to pillage this Temple, beheld his Army perish in these Desarts, and was saved himself only to see his own madness, and to die unhappily by his own Weapon. About this Temple there are some Springs of Running-water, and some Trees; which makes this quarter pleasant. Among these Waters, that which they called the *Fountain of the Sun*, had this particular quality, that it was very hot at Midnight, and very cold at Noon-day; the cold increasing from Morning till Noon, and diminishing until Evening; and from thence the heat increasing till Midnight, and diminishing until the Morning. There were three several ways which they used ordinarily to go to this Oracle: the shortest was by *Alberton*, which (as we have said) was upon the Coast, and from whence it was but 1300 *Stadia*, which are about 162000 Paces. Another way was from *Cayroan*; from whence it was 3000 *Stadia*, or 375000 Paces. *Pliny* saith, 400000; the difference is 25000 Paces. The longest way was from *Memphis*, from whence it was 3600 *Stadia*, or 450000 Paces. These are 180 Leagues for this last; 150, or little more, for the second, and 65 for the first. All these ways are very difficult, the Country being only Desarts of *Sands*; so dry, that the Wind moves them like the dust of the High-way, and that in so great a quantity, that they are able to interr *Carravans*. And if there be any Habitations in these Desarts, and where there is any Springs of Water, they are distant one from the other 40, 50, 60, sometimes a 100 Leagues; and these Habitations have little or nothing, since that of *Hammon*, the most considerable, is not above 80 *Stadia*, or 4 Leagues circuit; and yet it had a King, a Great Priest, &c.

The Desart of *Barca*, with its chief Places and People described.

In the Desart of *BARCA* there are some Parts peopled and frequented amongst those vast and floating *Sands*; as, 1. *Angela*, where there are three Cities, and many Villages; and their People have a great power against the *Serpents*, and therefore may answer to the Ancient *Billi*, (if the South-wind have not buried these in the *Sand*, for resolving to make upon him, because he had dried up all their Waters.) 2. *Serta*, which hath been once a great City, but at present reduced to Ruins. 3. *Alquechet*, which hath three Cities, and some Villages; and possibly *Elehochat* or *Eleocath*, is the same; or if they be two, they answer to the ancient *Oasis Magna*, and *Oasis Parva*. Its other chief places are, *Sabia*, *Ernet*, *Couzza*, *Ascor*, *Angela*, *Ebaida*, *Gorham*, and *Ammon*, spoken of before. Among these Desarts are many *Arabs*, of which some are powerful in Horse and Foot, and will not suffer any Cities, except of some *Africans*, which pay them Tribute.

The People of *Barbary*.

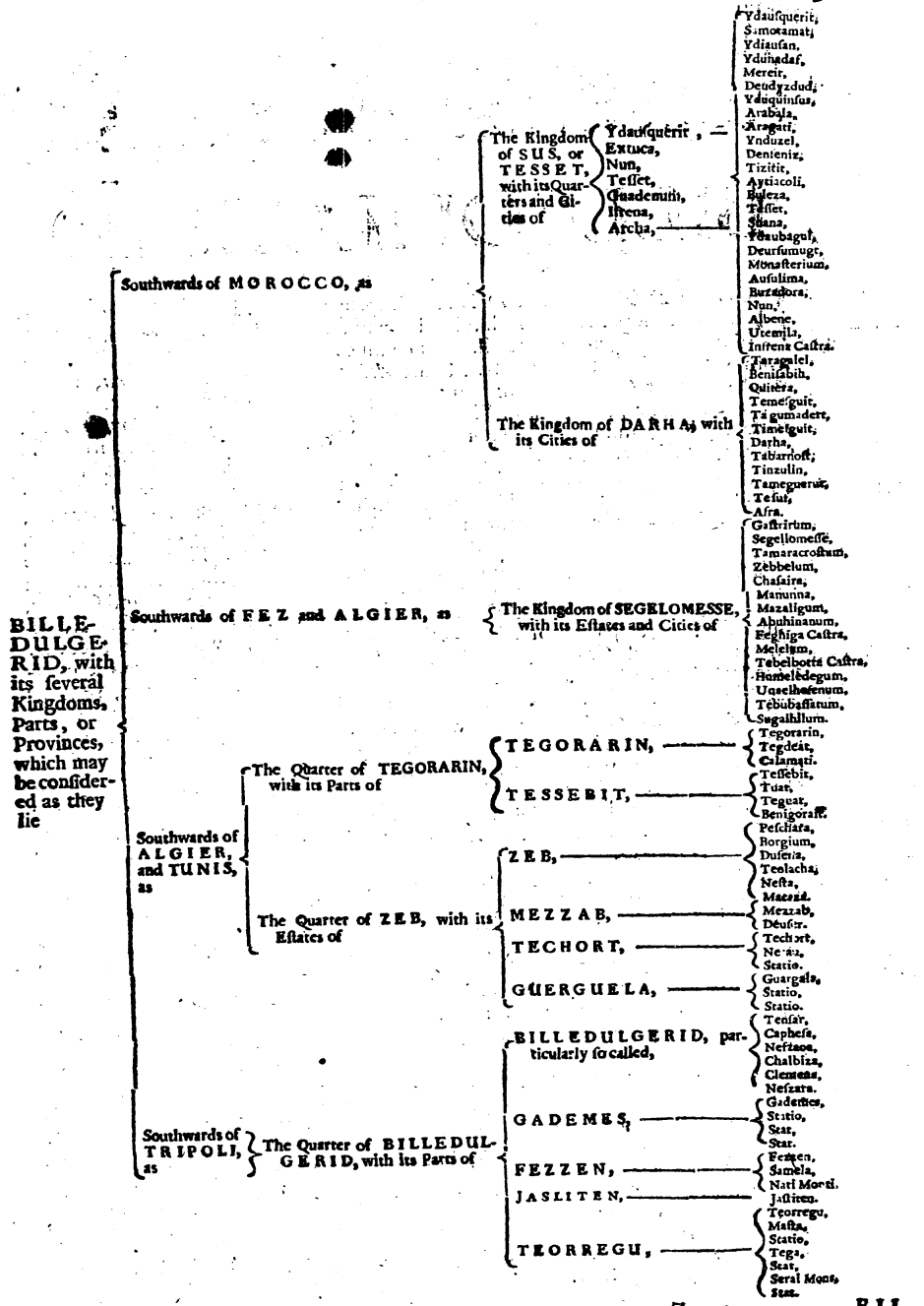
At present the People of these Desarts are in part *Africans* or *Bereberes*, part *Arabs*, and all extreamly barbarous. And since we are faln on these People, and that we have here the occasion, let us say, That *Barbary*, *Billedulgerid*, and likewise *Znaxa*, and part of *Nubia*, are for the most part inhabited by these two sorts of People. The *Africans* and *Bereberes* are, the Natural Inhabitants of the Country, or at least have been long seated there. They are divided into five principal Races, to wit, of *Zanhagia*, *Musmuda*, *Zeneta*, *Haora*, and *Gumera*: And these five Races are subdivided into more than six hundred Branches or numerous Lines, which distinguish themselves very well the one from the other, being very curious to keep the Antiquity of their Race, and to know from what People they are descended.

The Race of the *Arabs* which inhabit in *Barbary*.

The *Arabs* passed into *Africa* in the year of Grace 999, or the 400 of the *Æra* of *Mahomet*: and there was but three Races which passed, *viz.* those of *Esquequin* and *Hilel*, coming from *Arabia Deserta*, and that of *Maquil* from *Arabia the Happy*, they might make together 50000 Fighting men; but they so multiplied afterwards, that the Race of *Esquequin* hath eight or nine principal Lines, under which are many Branches, which they call *Heyles* or *Cob-Heyles*, that is, *Assemblies*, and live by *Advares*, which are like *Boroughs*, of 100, 150, or 200 Tents, which they carry along with them, and dispose as they think fit; they may make together about 40000 Horse, and 400000 Foot, in 1200 *Advares*. The Race of *Hilel* is divided into 11 Lines, these Lines into many Branches, and may make 30000 Horse, and 150000 Foot. The Race of *Maquil* hath 23 First or Second Lines, and may raise about 30000 Horse and 400000 Foot; which are for the three Races 100000 Horse, and near a Million of Foot. We cannot find how many *Advares* or *Communalties* are in the two last Races.

And these *Arabs* are on all Coasts among the *Bereberes*; yet so, that they have their Habitations distinct the one from the other, some in one quarter, some in another of the same Province. And it is to be observed, that there are *Bereberes* and *Arabs* still in the Cities, and others still in the Field; but these are accounted the most Noble, because the freest, often reaping the Harvest of their Neighbours labour.

BILLE-



BILLEDULGERID.

Billedulgerid, Its Bounds and Parts.

BILLEDULGERID is very improperly called *Numidia* by the Modern Authors: *Numidia* having been upon the *Mediterranean Sea*, which *Billedulgerid* touches not at all. Its confines are on the North of *Barbary*, from whence it is separated by Mount *Atlas*, on the South *Zaara*, on the West the great *Ocean Sea*, and on the East *Egypt*. Its principal Parts, Kingdoms or Provinces, are, *Sus* or *Tesset*, *Darha*, *Segelomesse*, *Tegorarin*, *Zeb*, *Billedulgerid*, and the Desart of *Barca*, which stretch themselves from the *Ocean* unto *Egypt*. And this length is of 1000 or 1200 Leagues, its breadth being for the most part not above 100, or little more, from which they have what is needful for them. The Air is healthful, they live long, are deformed, are held base People, ignorant of all things, are addicted to Theft, murther, are very deceitful, they feed grosly, and are great Hunters. They acknowledge *Mahomet* for their Prophet, whose Principles of Religion they observe, though they differ in many Ceremonies; their Garments are but mean, and so short, that not above half their body is covered with them; the better sort are distinguished by a Jacket of *blew Cotton*, which is made with wide Sleeves. They make use of *Camels*, as we do of *Horses*. Among them are many *Arabs*, which live by *Advares*, that is, *Communalties*, each of 100, 150, or 200 *Tents*, which they transport whither they please, that is, where they find best feeding for their Cattle; and when they stop, they dispose their *Tents* in a circle, making therein divers Streets and common places; and leaving some inlets and outlets, which are shut up and guarded like a City. These *Arabs* esteem themselves the most noble of all, calling those which till the Earth and prune Vineyards, Servants; and those which abide in Cities, Courtiers, and Effeminate: And these *Arabs* are esteemed more civil and ingenious than the *Numidians* are.

Its People.

The Kingdom of *Sus*, and its parts.

SUS, which *Sanutus* passes under the name of *TESSET*, and which is called the fartheſt *Sus*, to distinguish it from that of the Kingdom of *Morocco*, is the most Western part of *Billedulgerid*: It may be divided into seven Quarters, of which *Tdausquerit*, *Extuca*, and *Nun*, are on the Sea; *Tesset*, *Guadenum*, *Ifrena* or *Ufaran*, and *Archa* within the Land. Each of these parts have many Cities, Castles, and Villages; and the most part of its People are *Bereberes*, *Africans*, or *Arabs*. 1. *Tdausquerit* is the best Quarter, and the most fruitful, yields Fruits sweet and sowr, as *Oranges*, *Citrons*, &c. Also *Wheat*, *Barley*, &c. Feeds much Cattle, among others multitudes of *Horses*; can raise 5000 Horse, and 30000 Foot: They are held the best Souldiers in all *Billedulgerid*, and almost of all *Africa*. 2. *Extuca* is proper only for Pastures, abounds in *Goats*. 3. *Nun* hath but little *Barley*, and few *Dates*. 4. *Tesset* is a Town of about 400 Houses, hath some trade with the *Negroes*. The Inhabitants of *Guadenum* live of *Goats* Milk, by Hunting, and of *Dates*; and the Country hath *Ostriches*. Those of *Ifrena* trade with the *Portugals* at *Guargueſſen*, and those of *Archa* hath only *Dates*. And in these seven Quarters there are several other Towns and Cities, as *Buzedora*, *Utemila*, *Albene*, *Ausulma*, *Buleza*, and *Suana*, all Maritim places, opposite, and not far from the *Canary* Isles.

Its chief places, and its fertility.

DARHA,

DARHA is on the East of *Tesset* and *Morocco*: It is divided commonly into three parts, of which the chief retains the name of *Dara*; the other are, *Taffilet* and *Ttata*, which pass likewise under the name of *Taffilet*. All these parts have been divers times under the Dominion of the *Xeriffs* of *Fez* and *Morocco*. *Darha* is about a River of the same name; and where the River doth overflow it, it is indifferent fruitful. Among its chief Cities are, 1. *Benisabih*. 2. *Quitera*, *Tagumadert*, from whence came the *Xeriffs* of *Fez* and *Morocco*. 3. *Taragalel*, of 4000 Houses, and a *Jewry* of 400. 4. *Tinzulin*, the most spacious of all. 5. *Timesgut*, of 2000 Families: And, 6. *Tesuf*, once the Royal City of all these Quarters, now in Ruins.

The Kingdom of *Darha*, and its chief places.

TAFFILET hath born the Title of a Kingdom, as well as *Dara*; and its chief City of the same name hath more than 2000 Families of *Bereberes*. To this place (as *Heylin* observeth) did *Mahomet* the Second, Son of *Muhomet Ben Amet*, and second King of *Morocco*, of this Family, confine his eldest Brother *Amet*, having took him Prisoner in *Anno Dom.* 1544. *Ttata* is for the most part esteemed under *Taffilet*, though bear upon as great. The Land belonging to the one and the other, are harsh and Mountainous, and scituated between *Dara* and *Segelomessa*: *Taffilet* toward *Morocco*, from whence it is separated from Mount *Atlas*: *Ttata* towards the *Saara* or *Desart*, where is that of *Zuenziga*.

The Kingdom of *Taffilet*, with its chief places.

SEGELOMESSA is one of the greatest and best Provinces or Kingdoms of all *Billedulgerid*. Its chief City bears the same name, is made famous by the *Arab* of *Nubia*: It hath been ruined and rebuilded within 100 and odd years; it is seated in a Plain, and on the River *Ziz*. Where, and on those of *Ghir*, *Tagda*, and *Farcala*, are likewise some other Cities, more than 300 walled Boroughs, and a great number of Villages. The Rivers overflow, and make fertil the Country, as doth the *Nile* in *Egypt*. The Inhabitants may raise about 120000 Men to bear Arms: they have sometimes been subject to their Lords, sometimes to the Kings of *Fez* and *Morocco*; now are partly divided into Lines and Communalties, and partly subject to the *Arabs*.

The Kingdom of *Segelomessa* described.

Under the name of *Segelomessa* we will pass with *Sanutus* 12 or 15 little Estates, which have but few Cities or walled Towns, and some Villages; Poor, and almost all subject to the *Arabs*. *QUENEG* hath 3 Cities, of which *Zebellinum* the chief, is on a very high Rock, and holds the passage of *Segelomessa* to *Fez* by Mount *Atlas*. *Gastrirum*, another City, is on the side of a Mountain. *Tamaracostum* is on a Plain. Besides these Cities there are about 12 Towns, and twice as many Villages. They have sometimes aided the *Xeriffs* of *Fez* and *Morocco* with 8000 Men. *Helel* is the principal of its quarter, and the residence of the Lord of *Malgara*. *Manunna* the chief of *Rhoteb*, is peopled with *Moors* and *Jews*, all Merchants and Artizans. These places are on the *Ziz*, descending from the *Atlas* towards *Segelomessa*. *Suhait*, *Humeledegi*, and *Ummelhefen* make each their Estate apart. The last is on the way from *Segelomessa* to *Dara*. The Land is quite Desart, covered with Sand and black Stones. *TEBELBETTA* hath 3 Cities, 12 Villages; *FARCALA*, 3 Cities, 5 Villages: *TEZERIN*, 5 Cities, 15 Villages: *BENIGOMIA*, 8 Cities, 15 Villages; the Cities *Mazalig*, *Abuhinanum*, and *Chalsina*, make each their Estate: *BENIBESSERI*, *GUACHDA*, and *FEGHIGA* have each 3 Cities, and some Villages. Those of *Feghiga* addict themselves to Traffick and Letters; gather quantity of *Dates*, as doth likewise *Guaghda*: An excellent Mine of *Iron* employs those of *BENIBESSERI*, in carrying it to *Segelomessa*: A rich Mine of *Lead*, and another of *Antimony*, yields profit to those of *Chasair*, who carry them to *Fez*: the others bear only *Dates*, and their Inhabitants are oppressed by the *Arabs*, who rule over them. *Tagda*, besides its Labourers of the Land, hath some Tanners of *Leather*, and the Soil yields Grains and Fruits.

Several small Estates in and about *Segelomessa*.

I have made *Tegorarin* and *Zeb* the 4th and 5th Parts of *Billedulgerid*, taken in general. Under the name of *Tegorarin* I shall comprehend *Tesebit* and *Benigorait*; under that of *Zeb* I comprehend *Mezzab*, *Techort* or *Techortina*, and *Guergela*.

TEGO-

Quarter of *Tegorarin* described.

TEGORARIN hath more than 50 Cities or walled Towns, and 100 or 150 Villages; the chief of which are, *Tegorarin*, *Tuat*, and *Tegdeat*. The Country is abundant in *Dates*, yields *Corn* when watered; feeds no Cattle, except it be a few *Goats* for their Milk. Its People addict themselves to Trade, feten *Gold* from the *Negroes*, which they carry into *Barbary*, and bring from thence several Commodities to carry to the *Negroes*: Receiving Strangers with delight, and letting nothing be lost that they can leave with them to enrich their Country. *Tesebit* or *Tesevin* hath 4 Cities, 28 Villages; the most part of the Men are black, the Women only brown and comly. All poor, as likewise in the Desart of *Benigorait*.

Province of *Zeb*, and its chief places.

The Province of *ZEB* is more to the East than *Tegorarin*, it touches the Kingdom and Province of *Algier* and *Bugia*, near *Mesila*, on the North, is divided from the Regions of *Mezzab*, *Techort*, and *Guergela*, towards the South, by divers Mountains. Its principal Cities are five, *Pescara*, *Borgium*, *Dusena*, *Nesta*, *Teolacha*, and *Macaxa*. One part of these Cities were ruined when the *Arabs* entred into *Africa*, a part by *Barbarossa*; the most part afterwards restored. At present the *Turks*, the Kings of *Couco* and *Labes*, and the *Arabs*, receive some Tribute from them. The Inhabitants of *Pescara* live in the Fields in the Summer, being constrained to abandon the City by reason of the multitude of *Scorpions*, whose biting is mortal; as is that of the Black *Scorpions*, which are towards *Calaa* in the Kingdom of *Labes*: yet here the Inhabitants taking but two drams of a little Plant, it cures them though bitten, and preserves them a whole year (saith the *Arab* of *Nubia*) from biting. *Borghia* is well peopled, hath many Artizans and Labourers. The Water which passes at *Deusen* is hot, as likewise that which passes at *Nefta*. The Inhabitants of *Teolacha* are proud and haughty.

Quarter of *Mezzab*, its chief places, &c. described.

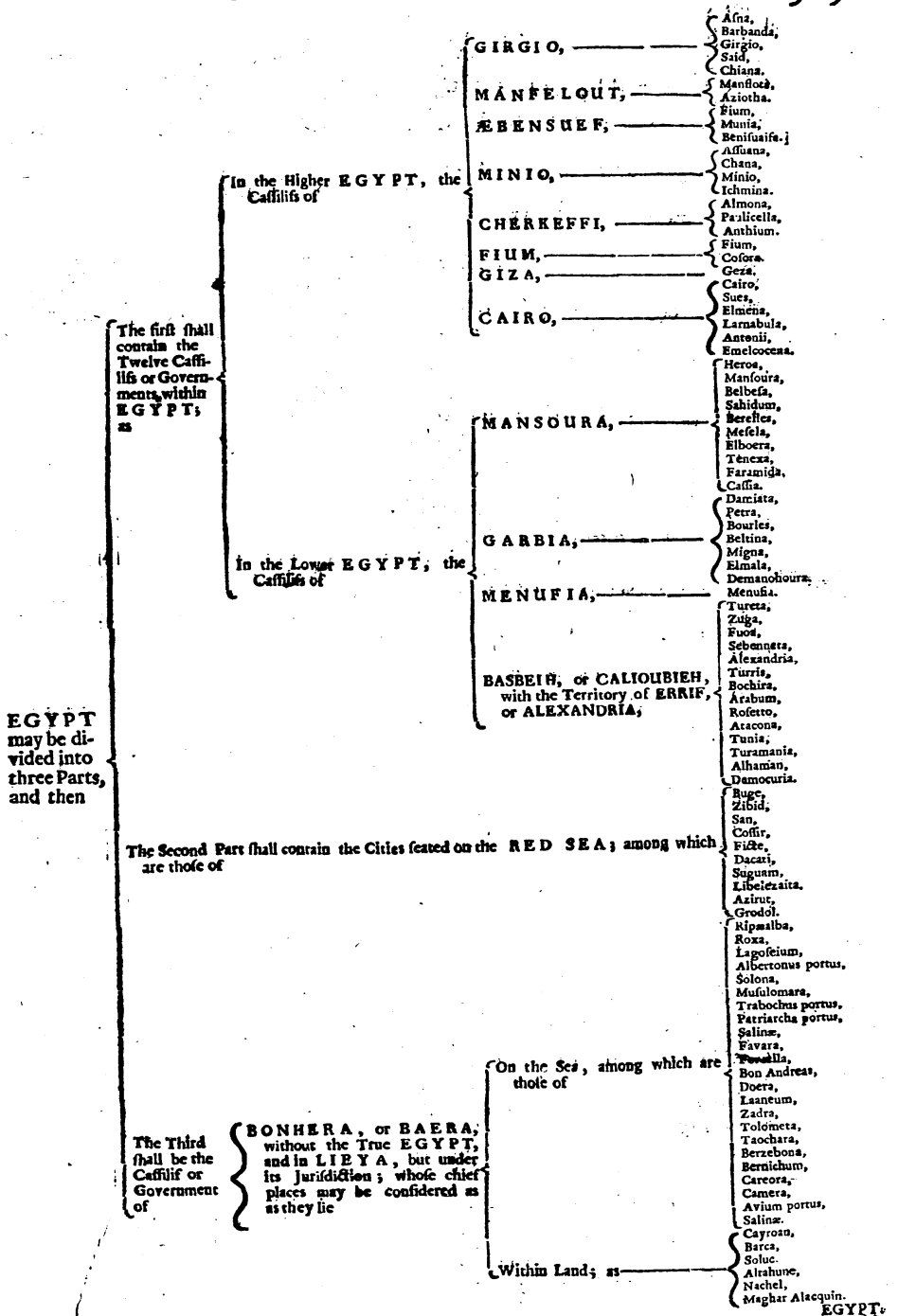
The Quarter of *MEZZAB* is to the South of that of *Zeb*, and is a great passage from divers parts of *Barbary* to go towards the Land of the *Negroes*; which makes those of the Country trade on the one, and the other side. They have six walled Towns, and a great number of Villages; are Tributary to some *Arabs*.

The Estates of *Techort* and *Guerguela*.

The Estates of *Techort* and *Guerguela* have each their Prince or King; they have sometimes been free, sometime Subjects or Tributaries to *Morocco*, *Telensin*, *Tunis*, and in fine to the Kings of *Algier*, to whom they give a certain number of *Negroes* in form of Tribute. Each Estate takes its name from its chief City; besides which they have each of them many walled Towns, and about 100 or 150 Villages, and about 150000 Duckats of Revenue: They can raise 40 or 50000 Men, but they are but bad Souldiers. *Techort*, though on the top of a Mountain, and having 2500 Houses, was yet taken by the *Turks* of *Algier* with a very few people and 3 Pieces of Cannon. They have abundance of *Dates*, from whence flows their Riches; they want *Corn* and *Fish*, they treat *Christians* favourably, and are more civil than their Neighbours.

Quarter of *Billedulgerid*, with its parts and chief places.

BILLEDULGERID, or *BELED-ELGERED*, that is, the *Country of Dates*, is a particular Province of *Billedulgerid* taken in general. This Province is above the Coast of *Tripoli*, and we add the Quarters of *Teorregu*, *Jasliten*, *Gademez*, and *Fezzen*. The particular *Billedulgerid* is so rich in *Dates*, that it takes thence its name, and hath communicated it to the neighbouring Countries, and to all that part which is above *Barbary*. Its principal Cities are *Tensar*, *Caphsa*, and *Nessaoa*, and a great number of Villages, *Teorregu* hath 3 walled Towns and 26 Villages, of which the chief bears the name of *Teorregu*. *Jasliten* 3 or 4 Towns, and 30 Villages, and the chief so called. *Gademez* hath 16 walled Towns, and about 60 Villages, the chief of which are *Gademes* and *Statio*. *Fezzen* more than 50 Cities or walled Towns, and above 100 Villages. The two last Estates are free, the other subject to the *Turks*, or to the Kings of *Tunis* and *Tripoli*. *Caphsa*, of old, *Capha*, which is believed to be built by the *Libyan Hercules*, is put by some among the Governments of *Tunis*.



EGYPT.

OF all the parts of *Africa*, EGYPT is the neareſt, and only contiguous to *Aſia*, and this Neighbourhood hath perſwaded ſome Authors, both Ancient and Modern, to eſteem *Egypt* either in whole, or in part, in *Aſia*. At preſent we hold it all in *Africa*, and give for its bounds the *Red Sea*, and the *Iſthmus* which is between the *Red Sea* and the *Mediterranean*, on the Eaſt; the Deſarts of *Barca* on the Weſt, *Nubia* on the South, and the *Mediterranean Sea* on the North. The *Nile* alone waſhes this Region through its whole length, which is from its *Cataracts* to the Sea, about 20 Leagues or more; its breadth not being above half ſo much, and of that breadth, that which is between the Mountains, which incloſes the Valley of *Nile* on the Eaſt, and the Coaſt of the *Red Sea*, is but Deſart; there being nothing inhabited but the Valley, which lies on both ſides the *Nile*, incloſed with Mountains, and very narrow in the higher part of *Egypt*; but enlarging it ſelf much more as it approaches the Sea. Of this Figure which the Country makes, the Ancients have taken occaſion firſt to divide it into high and low; after into high, middle, and low: Higher, which they called *Thebais*, by reaſon of *Thebes*, at preſent *Saida*: Middle, which they called *Heptanomos*, by reaſon of the 7 *Nomi*, *Provoſtſhips* or Governments it contained, at preſent *Bechria*, or *Demeſor*: Lower, and more particularly *Egypt*, and ſometimes *Delta*, the beſt part of the lower having the form of a Greek Δ, the two ſides of which were incloſed by the branches of the *Nile*, and the third by the Sea, and this part is now called *Errif*. The *Romans* changed ſomething in the number, and in the names of theſe Provinces, which we ſhall now omit.

Egypt bounded.

Its Diviſion and Names.

At preſent *Egypt* is divided into 12 principal *Caſſilifs*, *Sangiacats* or Governments, of which five anſwer to the Higher *Egypt*, *viz. Girgio*, *Manfelout*, and *Æbenſuef*, on the left hand of the *Nile*; *Minio* and *Cherkeſſi* on the right, ſtill deſcending the *Nile*; two, with the Territory of *Cairo*, anſwer to the Middle *Egypt*, *viz.* the *Caſſilifs* of *Fium* and *Giza* on the left, and *Cairo* with its Territory on the right hand of the *Nile*: then four others anſwer to the Lower, *viz. Manſoura*, *Garbia*, *Menouſia*, *Calliubech*, or *Baſſieh*, with *Alexandria* and its Territory: for the *Caſſilif* of *Bonhera*, or *Baena*, is out of the limits of the ancient and true *Egypt*, and in *Libya*, which paſſes commonly under the name of the Kingdom of *Barca*.

Egypt of great Antiquity.

EGYPT is very famous in that they would make us believe, that the firſt Men were here formed; and as there are yet formed a great number of Creatures, which appears when the Inundation of the *Nile* diminiſhed; ſaying, that the Gods, after them the Heroes, and in fine, Men have reigned for almoſt an incredible number of years. Of theſe Gods there are three degrees, of which *Pan* was the moſt ancient of the eight firſt, *Hercules* of the 12 ſecond, and *Denis* of the third. They divide the times of their men Kings by *Dynaſties*, that is, Dominations of divers Families; and give ſo great a number to their Kings, and ſo great a time to their Reigns, that they muſt have beginning long before the Creation of the World; and likewiſe by their account, their Gods and Hero's had reigned before Men the ſpace of 20 or 25000 years: They attribute the foundation of moſt of their Cities to their *Gods*, *Hero's*, and *Kings*; and theſe they make, and build many *Labyrinths*, *Pyramids*, *Obeliſques*, *Coloſſes*, *&c.* not knowing how to expend their Treaſures, or employ their People.

In

In the Hiſtory of the Kings of *Egypt*, one *Seſoſtris* or *Seoſtris*, ſubdued all *Europe* and *Aſia*, if we will believe them. *Joſeph* an *Hebrew* ſervant, and after maſter of the Houſe of *Potipher*, from the priſon, roſe to ſuch favour with the King, that he alone had almoſt the whole Government of the Kingdom, eſtabliſhed his brothers in *Egypt*; and their deſcendants multiplied ſo that in the end, the Kings of *Egypt* became jealous and fearful, leſt they ſhould make themſelves maſters of the Kingdom, another *Seſoſtris* ſubdued *Syria*, *Aſſyria*, *Media*, the Iſles of *Cyprus*, *&c.* and was eſteemed as much, or more then any of his predeceſſors. *Mephres* or *Memnon* it was that dedicated his Statue to the Sun, which it ſaluted at its riſing, and ſhewed ſome ſigne of Joy, ſo artificial was it made. *Buſiris* treated the *Hebrews* ſo ill, that he left him the name of an infamous Tyrant. *Cenchres* was the *Pharaoh* who was drown'd in the *Red Sea*. *Proteus* gave occaſion to ſay that he turned himſelf into a *Lion*, ſometimes into a *Bull* or *Dragon*, *&c.* by reaſon of his different arming his head, or poſſibly for his different actions. *Rempſis* had no other care but to keep up riches. *Chemnis* cauſed to be built the firſt and greateſt *Pyramid*, imploying therein three hundred ſixty thouſand men, for the ſpace of twenty years, of which more anon. *Seſac* or *Seſouchus*, armed four hundred thouſand Foot, ſixty thouſand Horſe, and One thouſand two hundred Chariots againſt *Rehoboam*; took and pillaged *Jeruſalem* and its *Temple*. *Bocchoris* though weak of body, was ſo prudent, that he gave Laws to the *Egyptians*. This was he that leagued himſelf with *Hoſea* againſt *Salmanazar* King of the *Babylonians*. *Sevecho* or *Sebeko* reigning in *Egypt*, *Sennacherib* King of the *Aſſyrians* being come to aſſault him, an infinite number of *Wild Rats*, knawed in one night the *Arrows* in the *Quivers*, and the *Strings* or *Cords* of the *Bows*, and the *Thongs* of the *Aſſyrians Armes*, which cauſed on the morrow both their flight, and overthrow. *Necao* or *Necaus* began the Channel between the *Nile*, and the *Red Sea*, paſſed by the *Meridional* or *Æthiopian Ocean*, by the *Occidental* or *Atlantick Ocean*, reentred by the ſtreight of *Gibraltar*, and returned into *Egypt*, at the end of three years; he vanquiſhed *Joſias* King of *Judea*, and was alſo vanquiſhed by *Nebuchodonozar*. *Apryes* happy in his beginnings, was in the end defeated by thoſe of *Cyrene* in *Libya*; and ſaw all *Egypt* revolt, who choſe for their King *Amaſis*, under whoſe reign there were counted twenty thouſand Cities in *Egypt*, as *Pliny* ſaith. Under this *Amaſis*, the Eſtate fell into the hands of the *Perſians*, after to the *Macedonians* (*Greeks*,) and then to the *Romans*, *&c.* Among the Kings of *Perſia* who ruled in *Egypt*, *Cambyſes* was the firſt and beſt known; among the *Macedonians* and *Greeks*, *Alexander* the great; after whom the Kings of *Egypt* took the names of *Ptolomies*, from the name of him who firſt bore the title of King after *Alexander*, but after the *Romans* had to do with the affairs of *Egypt*, there was nothing more remarkable of their Hiſtory but *Cleopatra*; after whom *Auguſtus* reduced this Kingdom to a *Roman* Province: and it remained under the *Romans*, and under the *Emperours* of the Eaſt, near ſeven hundred years, till about the year of Grace ſix hundred and forty, that the *Arabs* ſeiſed it under their *Califs*, who reſided firſt at *Medina*, then at *Bagdad*, *Damaſcus*, and ſometime at *Cairo*. The *Soldans* aboliſhed this *Califate* in *Egypt*, and among them the *Chriſtians* have but too well known one *Saladine*, who drove them out of a great part of the *Holy Land*. Among theſe laſt *Soldans*, *Campſon*, *Gaurus* and *Tomombey* were eſteemed valiant, yet were ſo ill ſerved, that the *Turks* under their Emperour *Selimus*, became Maſters of *Egypt* in 1518, and do yet poſſeſs it.

The Tribute they pay to the *Baſſa*.

At preſent the *Port* ſends a *Baſſa* to command in *Egypt*, and the 12 *Caſſilifs* or *Governours* of the Country depend on this *Baſſa*, and are as it were only his Farmers: They give him every year a certain number of *Purſes*, (every *Purſe* of 750. or 760 *Lion dollars*) ſome 25, 30, 40, ſome only 10 or 12, according to the goodneſs of the Country, or the greatneſs of their *Caſſilifs* or *Governments*, ſome having only 40 or 50 Towns; other 100, 200, 300 and more: beſides theſe *Purſes* for the *Baſſa*, they give to the *Tihaja* or *Haja* (who is as it were his *Chancellor*) and other Officers, about the ſixth, or at leaſt the fifth part of what they

they give to the *Bassa*. And for the Prince, or *Grand Signior*, some pay 6 times more, others ten times more then they give to the *Bassa*; and besides these *Purses* they furnish a certain number of *Ardeps*, or measures of *Grain*, *Pulse*, &c. The constant Profit or Revenue that the *Grand Signior* draws from this Kingdom is 1800000 *Zeccheens* yearly, each *Zeccheene* is valued at 9 *s.* sterling, which is 8 millions and 10000 *l.* sterling, and this Revenue is divided into 3 equal parts, of which one is allotted for the furnishing and accommodating the Annual Pilgrimage to *Mecha*; the second goes for the payment of the Souldiers and Officers, with other necessary charges for the management of the Kingdom; and the third and last goes clear into his *Chequer*.

The *Grand Signiours* revenue from *Egypt*.

The *Cassilif* of *Girgio*, or of *Sait* is one of the best and richest; it passed not above 100 years since for a Kingdom, and received its *Bassa* from the *Port*. It hath likewise its *Dievan*, disposes its *Cassilifs*, or under-Governments which lie in its extent, the Soyl is fruitful, bears much *Corn*, and feeds many *Cattle*. The *Cassiliffs* of *Manfelout*, and *Benesuef*, are not so great but better peopled, and worth little less then that of *Girgio*. On the other side of the *Nile* are those of *Minio* and *Cherkessi*. which have as large an extent as the other 3 together; but are incomparably less as to the goodness, scarce yielding the tenth part of what the others do; so great difference is there in being at the foot, and on the East of a Mountain. These 5 *Cassilifs* answer to the higher *Egypt*, or the *Thebais* of the Ancients; in which are a great many Cities, Walled Towns and Villages, as are generally found throughout all *Egypt*, as anon I shall have occasion to treat of. Those *Cassilifs* of *Fium* and *Giza* with the Territory of *Cairo* to the middle. The *Cassilifs* of *Fium* and *Giza* have very good Earth, and which is easily watred by the *Nile*; it yields store of *Grain*, *Fruits*; as *Raisins*, &c. *Flax*, *Milk*, feeds many *Cattle*, &c. but the *Cassilif*, or *Governour* of the last hath not a free sword, that is, hath not power of life and death as he pleases, as the others have, being out of the course of the *Arabs*, and too near *Cairo*, of which a word or two.

The several Cassilifs in *Egypt*.

City of *Cairo* described.

This City of *CAIRO* hath for a long time been all the Ornament of *Egypt*: It was the Residence of the *Sultans*, is now of the *Bassa*, some make it very great, others much less; the first compose it of 4 parts, to witt, Old *Cairo*, New *Cairo*, *Boulac* and *Charafat*; there being some void places between each; they say that these 4 parts together with their Suburbs may be about 10 or 12 Leagues long, and 7 or 8 broad; nor give they it less then 25 or 30 Leagues Circuit. They count 16 or 18000 Streets, 6000 *Mosques*, and if the particular *Oratories* be comprised above 20000, as also they account about 200000 Houses, among which are divers *Bazars* or *Markets*, *Caves* or *Magazines* of certain *Merchandizes*, many *Hospitals*, and magnificent structures. The *Castle* is great, strong, and well fortified, scituate on the top of a Rock, which overlooks the City, and discovers the Plain on all sides, even to the loss of sight. The buildings, paintings, and other Ornaments which yet remain, do testify the magnificence of the *Soldans*. This Castle (as *Heylin* noteth) for largeness, may rather be held for a City, then a Castle, enclosed with high and strong Walls, and divided into many Courts, in which were stately buildings, but now hath lost much of its glory; being in part destroyed by *Selimus*; that which now remains, serveth for the Court or habitation of the *Bassa*. In and about this City, are abundance of delicate *Orchards*, which are places of great delight in which are excellent *Fruits*, *Walks*, &c. and nigh to this City, there is a pleasant Lake which is much frequented by the *Inhabitants*, who for their recreation pass some time daily on this Lake in boates, for their further mutual society, and seeing their friends and acquaintance.

Cæsar Lambert his description of *Cairo*.

Cæsar Lambert of *Marsillia* in his relations of the year 1627, 28, 29, and 32, saith, that *Cairo* (separated from the other Cities and Towns) is not so great as *Paris*, (and if an eye witness of both may be believed he speaks truth) and takes for witnesses some eminent *French Gentlemen* then at *Cairo*; who confesses that joyning it to the Cities and Boroughs adjacent, it may with reason be called *Grand Cairo*; but however he maintains this

this to be but almost the shadow of *Cairo*, as it was 100 and odd years since, so much is the trade diminished, and that according to the report of the people of the Country. He saith likewise that the *Castle* hath been much greater, and more magnificent then it is at present, and observes several foot-steps of proud buildings, now of no use; and after all, saith, that this is not strong.

Sandys his description of *Cairo*.

Sandys in his book of *Tavels* among other remarkable things, makes this description of it, saying, that this great City called *Grand Cairo*, is inhabited by *Moors*, *Turks*, *Negroes*, *Jews*, *Copties*, *Greeks* and *Armenians*, who are observed to be the poorest, and yet the most laborious, the civillest and honestest of all others; they are not subject to the *Turk*, neither do they pay him any Tribute of Children, as other *Christians* do; and if they happen to be taken in Wars, they are freed from bondage; and this priviledge they gained, by a certain *Armenian* that foretold the greatness and glory of *Mahomet*. Here he saith they hatch Eggs by artificial heat, and that in exceeding great numbers, which they do in this manner. In a narrow entry, on each side are 2 rows of Ovens, one over the other. On the floors of the lower they lay *Flax*, over those *Mats*, and upon them *Eggs*. The floors of the upper Oven, are as roofs to the under, being grated over like kilns, onely having tunnels in the middle, which have covers over them. These gratings are covered with mats, and on them they lay dry and pulverated dung of *Camels*, &c. three or four inches thick, at the farther and higher sides of these upper Ovens are trenches of *Lome*, which are about a handful deep, and two handfuls broad, and in these they burn the aforesaid dung, which yieldeth a gentle heat, without any fire, under the mouths of the upper Ovens are conveyances for the smoak, having round roofs, with vents at the top to open and shut; and thus ly the *Eggs* in the lower Ovens for the space of eight daies, turning them daily, and looking that the heat be gentle and moderate, then they put out the fire, and put the one half into the upper Ovens, then they shut all close, and let them alone ten daies longer, at which time they become hatched.

The hatching of Chickens.

I shall conclude my description of this City, with some observations which Sir *Henry Blunt* hath observed during his abode there, first, he saith that there are *Mosques* and *Oratories* to the number of thirty five thousand, some of which are very stately and magnificent; next he saith there is twenty four thousand noted Streets, besides by-Streets and Lanes, and some of these Streets are about two miles in length, and to all these Streets, at each end, there is a Door which every night is lockt up and kept guarded, by which means tumults, robberies, fire or the like is prevented; and without the City to hinder the Incursions of the *Arabs* from abroad, there doth also watch every night four *Saniacks*, with each of them one thousand horsemen, the number of men that do every night guard this City is twenty eight thousand. This City is built, he saith, after the *Egyptian* manner, high, and of large rough stones, with part of Brick, the Streets are but narrow, but as the Houses decay, they are rebuilt after the *Turkish* manner, mean, low, and made of Mud and Timber; yet their *Palaces* are stately, with spacious Courts, wherein are fair Trees to keep them from the heat of the Sun; also other Courts belonging to their *Palaces* adjoyning to curious Gardens, wherein are variety of excellent fruits, and watred with Fountains, nor want they any state in their Edifices, which are vast, lofty, and very magnificent. This City notwithstanding its greatness, he saith, is so exceeding populous, that the people pass to and fro, as it were, in throngs; near to this City are *Josephs* 7 *Granaries*, now brought to ruines, yet 4 of them are so repaired, as they are made use of to keep the publick Corn. On the South end of this City, he saith, there yet remaineth a round Tower, wherein *Pharaohs* daughter lived when she found *Moses* in the River which runs hard by it.

Sir *Henry Blunt* his description of this City *Cairo*.

South West of *Grand Cairo*, on the other side of the *Nile*, about four Leagues distance, stands the three oldest and greatest *Pyramides*; the *Jews* affirming them to be built by *Pharaoh*, who was drowned in the *Red Sea*; the fairest for himself, the next for his Wife, and the least for his only Daughter. The greatest of the three, and chief of the Worlds Seven Wonders;

is made in form *Quadrangular*, leſſening by equal degrees; the Baſis of every Square, is 300 paces in length; and ſo leſſening by degrees, aſcending by 250 ſteps, each being about 3 feet high; the Stones are all of a bigneſs, and hewed four ſquare. And in this, as alſo in the others, there are ſeveral Rooms. There are alſo about 16 or 18 other *Pyramides*, but of leſs note, and not ſo ancient as theſe 3 aforeſaid are, which I ſhall paſs by. Nigh to this City, in the Plain, is the place where they did inter their dead; in which, they uſed ſuch art, that the bodies of their dead remain to this day perfect ſound; and theſe we call *Mummies*. The places where theſe bodies ly, are about ten fathom under ground in Vaults; either in the Sand, or upon an open ſtone: The Earth is full of dry Sand, wherein moiſture never comes; which together with their art of Embalming them, doth thus preſerve the bodies for ſome thouſand years paſt. In the breſt of theſe *Mummies* is ſet a ſmall *Idol*, ſome of one ſhape, ſome of another, with *Hieroglyphicks* on the back ſide of them. This City of *Grand Cairo* was formerly of a very great Trade, but that which hath now ruined it, as likewiſe that of *Alexandria*, is the diſcovery of the *Eaſt Indies* by the *Cape of Good Hope*; by which, the *Engliſh*, *Portugals* and *Hollanders*, at preſent go to theſe *Indies*, and bring into the Weſt all thoſe *Drugs*, *Spices*, *Precious Stones*, *Pearls*, and a thouſand other *Commodities* which came before by *Aleppo*, or by *Egypt*; but paſſing by *Cairo*, let us come to the other *Caſſilifs*.

The *Caſſilifs* in the lower *Egypt*.

In the lower *Egypt*, are thoſe of *Garbia*, *Menufia*, and *Callioubech*, within the *Delta*, and between the Branches of the *Nile*. That of *Manſaura*, without, and Eaſtward towards the *Holy Land*, and *Arabia*: Likewiſe without, and Weſtward of the *Nile*, is the *Caſſilif* of *Bonhera* or *Baera*, which ſtretches it ſelf from the *Nile* unto the *Cape of Bonandrea*. This laſt *Caſſilif* is almoſt quite out of *Egypt*, though within its Government, and the length of its *Sea Coaſt*, not leſs then that of all *Egypt* along the *Nile*: But that which is diſtant from the *Nile*, is ſubject to the *Arabs*, and very Deſart; that which is near it is better worth. Its Governor is obliged to Mannel a *Callech* or *Channel* of 100000 paces in length, to carry water from the *Nile* to *Alexandria*; and when a new *Baſſa* arrives in *Egypt*, this Governor hath likewiſe to furniſh him with *Horſes* and *Camels* for himſelf, his Train and Baggage, and to defray his charges from *Alexandria* unto *Cairo*. But ſince the Wars with the *Venetians*, the *Baſſa's* have generally come round by Land, and not adventured by Sea to *Alexandria*. Among the Deſarts of this *Caſſilif*, thoſe of St. *Macaire* have had 360 and odd *Monaſteries*: And here is likewiſe to be ſeen, a *Lake* of *Mineral Water*, which converts into *Nitre*, the *Wood*, *Bones*, or *Stones*, that are thrown into it.

The *Caſſilifs* of *Callioubech*, *Menoufia* and *Garbia*, being between the Branches of the *Nile*, and out of the courſe of the *Arabs*, ought to be eſteemed the beſt in *Egypt*; and particularly, the laſt which yields more abundantly *Sugar*, *Rice*, *Milk*, *Grains*, *Oyl*, *Flax*, *Herbs*, *Honey*, *Fruits*, &c. And *Maala*, one of its principal Cities, which they call the *Little Medina*, is a place of great devotion with them, where they hold yearly a famous Fair, which the Governor opens with great pomp, obſerving many Ceremonies. The *Caſſilif* of *Manſoura* doth produce the ſame *Commodities*, but not in ſo great a quantity, though of a greater extent then *Garbia*; but more over it yields *Caſſia*. Theſe four or five *Caſſilifs* take up the whole Coaſt of *Egypt*, and of its Government, and on this Coaſt are the Cities of *Alexandria*, *Roſetto*, *Damiata*, and ſome others.

The City of *Alexandria*.

Alexandria, among the *Turks*, *Scanderia*, was built by the command of *Alexander* the Great, and by him peopled with *Greeks*, immediately after the conqueſt of *Egypt*; and the Moddel traced by the *Architect Dinocrates*, who for want of other matter, made uſe of *Wheat-flower* to mark out the circuit; which was taken for a good *Augury*. It was afterwards beautified by many, but eſpecially by *Pompey*. It is ſcituated Weſtward of the *Delta*, over againſt the Iſle of *Pharos*, and built upon a Promontory, thruſting it ſelf into the *Sea*; with which, on the one ſide, and on the other, the *Lake Mareotis*. It is a place of good defence; its circuit is about 12000 paces, adorned with many

many ſtately *Edifices*; among which, the moſt famous was the *Serapium*, or the *Temple* of their god *Serapis*. Which for curious workmanſhip and the ſtatelineſs of the Building, was inferior to none but the *Roman Capitol*, then the *Library* erected by *Ptolomy Philadelphus*; in which there were 200000 Volums, which *Demetrius* promiſed to augment with 300000 more. And this in the War againſt *Julius Cæſar* was unfortunately burnt. And this is that *Philadelphus* who cauſed the *Bible* to be tranſlated into *Greek* by the 72, *Interpreters*, which were ſent him by the *High Prieſt Eleazar*. In this City, in *Anno* 180, *Gantenus* read *Divinity* and *Philoſophy*, who, as it is thought, was the firſt inſtitutor of *Univerſities*. This City hath been enriched with 400 high and ſtrong *Forts* and *Towers*; and the *Ptolomies* or *Kings* of *Egypt*, having made here their reſidence after the death of *Alexander* the Great, and cauſed many ſtately and magnificent *Palaces* to be built: Under the *Houſes* are *Ciſterns* ſuſtained with *Pillars* of *Marble*; as alſo Pavements for their refreſhment, being their Summer habitation; their ancient cuſtom, by reaſon of the heat, being to build their Houſes as much under ground as above, the upper part ſerving for their Winter habitation. It was their cuſtom alſo to erect great *Pillars* of *Marble* or *Porphyry*; among others, that of *Pompey*, which ſtands upon a four ſquare Rocky Foundation without the Walls, on the South ſide of the City: It is round, and of one intire piece of *Marble*, and of an incredible bigneſs, being above One hundred foot high, not far from the place where he was ſlain in a Boat at Sea, and where his aſhes were laid. In this City are alſo two ſquare *Obelisks*, full of *Egyptian Hieroglyphicks* of a vaſt bigneſs, and each of one entire piece of Stone; ſaid to be thrice as big as that at *Rome*, or that at *Conſtantinople*. Near theſe *Obelisks*, as Sir *Henry Blunt* relateth, are the ruines of *Cleopatra's Palace*, high upon the ſhore, with the private Gate, whereat ſhe received *Mark Antony* after their overthrow at *Actium*. And he ſaith, That about a bow ſhoot further, upon another Rock on the ſhore, is yet a round *Tower*, which was part of *Alexanders Palace*. This City, after the *Romans* were Maſters of *Egypt*, was maintained ſo rich, ſo well peopled, and ſo powerful, that it was eſteemed the ſecond of their Empire: And when the *Arabs* ſeiſed it, there was counted 12000 Sellers of *Herbs*, 4000 *Bathing-houſes*, 400 *Play-houſes*, &c.

Thus was the former ſtate of this City, but at preſent almoſt a heap of ruines, eſpecially, the Eaſt and South parts; not the moyety of the City being inhabited. And were it not for ſome conveniencies of Trade, or the like, more then any pleaſure of the place, by reaſon of the evil Air which reigns there, it would be ſoon left wholly deſolate. It is now inhabited by a mixture of Nations, as *Turks*, *Jews*, *Greeks*, *Moors*, *Copties* and *Chriſtians*. Now remarkable for a *Moſque*, in which St. *Mark*, their firſt *Biſhop*, was ſaid to be buried: Yet their reſts ſtill within, and near the City, many *Obelisks*, *Columns*, Footſteps of proud Buildings, &c.

The City of *Roſetto*.

Raſchit or *Roſetto*, a pritty little City, ſeated on the *Nile*, four miles from the *Mediterranean Sea*; a place of no ſtrength, but of a great Trade, and well furniſhed with ſeveral ſorts of *Commodities*. Its Buildings are ſtately, both within and without, and is only defended by a *Caſtle*, being without Walls, or other Fortifications. This City in ancient times, was noted for a place of all kinds of *Beaſtlineſs* and *Luxury*.

The City of *Damiata*.

Damiata is a fair City, and its Land excellent, famous for the often Sieges laid unto it by the *Chriſtian* Armies, in *Anno* 1220. Who for 18 Moneths continuance, did ſtoutly defend themſelves; till in the end, the Enemy hearing no noiſe, ſome of them did adventure to Scale the Walls, who finding no reſiſtance, the Army marched in; who then found in every houſe and corner, heaps of dead bodies, and none to give them burial; and ſearching them, found them to die of *Famine* and of the *Peſtilence*, which grievouſly raged amongſt them: Which lamentable ſpectacle, muſt needs add terror to the beholder. This City was built, as ſome Authors ſay, out of the ruines of *Peluſium*, which was built by *Peleus*, the Father of *Achilles*; who for the murther of his Brother *Phocus*, was,

was by the gods commanded to purge himself in the adjoyning *Lake*. This place (as *Heylin* noteth) was the *Episcopal See* of St. *Isidore*, sirnamed *Pelusiotes*, whose Pious and Rhetorical *Epistles* are yet extant. And at this place *Ptolomy*, the famous *Geographer*, drew his first breath. And these three Cities, after *Cairo*, are at present the faireſt of *Egypt*. There are abundance of other Cities which are yet in some repute; as *Suez* and *Cossir*, seated on the *Red Sea*; *Suez* noted for its *Arsenal*; and *Cossir*, for its reception of the *Merchandizes* of the East; and *Suiet*, a fair Town not far from *Cairo*, on the *Nile*, by some said to be the dwelling place of *Joseph* and *Mary*, whither they fled with *Christ* for fear of *Herod*; where are yet the ruines of a fair and beautiful *Temple*, which as they say was built by *Helena*, the Mother of *Constantine*, with several others too tedious to name. But to speak truth, *Egypt* is nothing in regard of what it was under its first Kings, with several other, as I have set down in my *Geographical Tables*, as they are found in the said Twelve *Cassiliffs*; and are all commodiously and pleasantly seated on the Banks of the *Nile*, which traverses the whole Countrey, dividing it self into several streams, especially in the Higher *Egypt*, where with several Mouths it falls into (or receives) the *Mideterranean Sea:* Also I have noted several Cities seated on the *Red Sea*, to which I refer the Reader.

The Lakes of *Buchtira* and *Moeris*.

In this Countrey are two *Lakes*, the one is called *The Lake of Bucheira*, in the Territory of *Alexandria*, and is about twelve Leagues in length, and seven in breadth; the other is called *The Lake of Moeris*, in the *Cassiliffs* of *Giza* and *Fium*; and is about 27 Leagues in length, and 20, 15, 10, 5, and 3 in breadth.

Thus much for the Description of the Countrey; In the next place, I shall treat of the *Inhabitants*, as to their *Laws*, *Religion*, *Customs*, *Antiquities*, *Hieroglyphicks*, *Stature*, *Habit*, &c. Also the *Fertility* and *Rarities* of the Countrey; amongst which I shall end with the Description of the *Nile*.

Their Laws & execution of Justice.

Their *Laws*, as to *Justice* and *Government*, are perfectly *Turkish*; and therefore I shall refer the Reader to the Description of the *Turks*, as ye may find it treated of in the Description of *Constantinople*, their *Metropolitan* City. Yet for rigor in their punishments, they exceed other parts of *Turkey*, and that by reason of the treacherous, malicious, and base dispositions of them; their executions being different according to the quality of the Crime, for some offences they use flaying alive; for others impaling; cutting them off with a red hot Iron at the Waist; for others oynting with *Honey* in the *Sun*; also, some they hang by the Foot, and the like cruelties. The ancient People of this Countrey were *Heathens*, worshipping the *Sun*, *Moon* and *Stars*, sacrificing to *Apollo*, *Jupiter*, *Hercules*, and the rest of the gods; also attributing divine honors to *Serpents*, *Crocodiles*, as also to *Garlick*, *Onions*, and *Leeks*. But the god which thay most adored, was *Apis*, a coal-black *Ox*, with a white Star in his Fore-head, two Hairs only in his Tail, and the form of an *Eagle* on his back; but now *Mahometism* is much received amongst them. The *Christian* Faith was here first planted by St *Mark*, who was the first Bishop of *Alexandria*. And these *Christians* are all of the *Jacobites* Sect, observing the same Customs and Forms of Ceremonies in their *Religion*, as those formerly treated of in *Asia*.

Its antiquities.

Among the many *Rarities* or *Antiquities* of this Countrey, are the *Pyramides*; as also the *Obelisks* and *Columns* spoken of before; next on the Banks of the River *Nile*, stood that famous *Labyrinth* built by *Psammicus*; a place of an exceeding great bigness, containing 1000 Houses, besides 12 *Royal Palaces*, within an intire Wall, Which had but one entrance; but exceeding many turnings and windings, which caused the way to be exceeding difficult to find, the building being as much under ground as above. The buildings were of *Marble*, and adorned with stately *Columns*: The Rooms were fair and large, especially a *Hall*, which was the place of their general Conventions, which was adorned with the Statues of their gods, and composed of polished *Marble*. Not far from the *Pyramides* doth stand the *Colossus*, being in form of an *Æthiopian Woman*, which heretofore was adorned as a *Rural Deity*.

This

This *Colossus* is of a vast bigness, and is made out of the natural Rock, together with huge flat Stones. Also the Isle and Tower of *Pharos*, opposite to *Alexandria*; a place of a great bigness, and of great rarity and magnificence; its *Watch-Tower*, was of an exceeding great height, being ascended by steps, and on the top of this *Tower* there were placed every night abundance of *Lanthorns* with Lights, for the direction of *Sailors*, by reason of the dangerousness of the Sea on that Coast, being so full of Flats.

Their several Hieroglyphicks.

The *Egyptians* instead of *Letters*, made use of *Hieroglyphicks*; of which, an example or two shall suffice; *viz.* For *God*, they painted a *Falcon*; for *Eternity*, they painted the *Sun* and *Moon*; for a *Tear*, they painted a *Snake* with his *Tail* in his *Mouth*; for any thing that was abominable, they painted a *Fish*; with a thousand more in the like nature too tedious to name. They are said to be the first that invented *Arithmetick*, *Geometry*, *Musick*, *Philosophy*, *Physick*; and by reason of the perpetual serenity of the Air, found out the course of the *Sun*, *Moon* and *Stars*; their *Constellations*, *Risings*, *Settings*, *Aspects* and *Influences*; dividing by the same, Years into Moneths, grounding their divinations upon their hidden properties. Also the first *Necromancers* and *Sorcerers*. These People are much given to *Luxury*, prone to *Innovations*, *Cowardly*, *Cruel*, *Faithless*, *Crafty* and *Covetous*; much addicted to *Fortune telling*, wandring from one Countrey to another, by which cheating tricks they get their livelihood: But these people are not the same as the ancient *Inhabitants* were, being a Miscelne of other Nations as aforesaid, these People not addicting themselves to *Arts* or *Letters*, as the former did. They are of a mean stature, active, of a tawny complexion, but indifferently well featured; and their *Women* fruitful in Children, sometime bringing two or three at a time.

Their habit.

Their habit is much after the *Turkish* dress, in which they are not over curious.

They have in this Countrey a Race of *Horses*, which for one property may be esteemed the best in the World; that is, they will run without eating or drinking, one jot, four daies and nights together: And there are some *Egyptians*, which with the help of a Sway bound about their body, and carrying with them a little Food to eat, are able to ride them. For shape, these *Horses* do not surpass others; and for this property they are held so rare, and esteemed at three years of age, to be worth 1000. pieces of Eight, and sometimes more: And for this breed of *Horses*, there are Officers appointed to look after them, and to see the *Foles* of them, and to register them in a book with the colour, &c. which they receive from the testimony of credible persons, to avoid cheats. But these *Horses* are not fit for any other then such a Sandy Countrey, by reason of their tender feet.

But let us come to the *Nile*, which is the principal piece in all *Egypt*: I hold it for one of the most considerable Rivers of the World. The length of its course, and the divers Mouths by which it discharges it self into the *Sea*. Its inundation at a perfixed time, the quality of its Waters, and the fertility and richness it leaves where it passes, are my inducing Reasons. It begins towards the Tropick of *Capricorn*, ends on this side that of *Cancer*, running for the space of above 45 degrees of *Latitude*, which are 11 or 1200 Leagues in a streight line, and more then 2000 in its course, crosses a great *Lake*, embraces the faireſt River *Island*, and waters the richest *Valley*, we have knowledge of. Among its *Inhabitants* this is particular, that naturally some are black and some white; and that in the same time, the one have their Summer, or their Winter; when the others (which is not known elsewhere) have their Winter, or their Summer. Its true Spring is likewise almost unknown; it is certain that the River that comes out of the *Lake* of *Zair*, and takes its course towards the North, is that which we call the *Nile*: But this *Lake* receives a number of Rivers which descend from the Mountains of the *Moon*. To tell whether any of these Rivers bears the name of *Nile*, and which they be, cannot be done: Though there have been Kings of *Egypt*, *Roman* Emperors, *Sultans*, and Kings of *Portugal*, which have made the search.

It

In ſum, and according to *Ptolomy*, who hath ſaid as much as any hitherto, it muſt be that moſt advanced towards the South, and which waſhes at preſent the City of *Zambery*, croſſes the *Lake* of the ſame name, or of *Zair*; the City of *Zair* being likewiſe on the ſame *Lake*. At the coming out of the *Lake*, the *Nile* paſſes between the Kingdoms of *Damout* and *Goyame* in the *Abiſſines*; receives a little on this ſide the *Equator*, the *Zafflan*, which comes out of the Lake of *Zafflan*; near the Iſle of *Mero* or *Gueguere*, the *Cabella* or *Taguezzi*, which deſcends from the *Lake* of *Barcena*; and at the entrance into *Egypt* of the River *Nubia*, which croſſes *Nubia*, and comes from *Saara* and *Belledulgerid*; and apparently anſwers to that, which *Juba* believed to be the true *Nile*. Theſe 3 Rivers are the greateſt of all thoſe which disburthen themſelves in the *Nile*, and carry a great many others. But in *Egypt* the *Nile* remains alone, paſſes between two ranks of Mountains, approaching the Sea, the Valley enlarges, and the *Nile* divides it ſelf into many Branches, and glides by many Mouths to the Sea. The Ancients made account of ſeven, nine, or more, now except in the time of Inundation, there are only two principal ones, which paſs by *Roſetto* and *Damiata*; and three leſſer by *Turbet*, *Bourles* and *Maala*: Theſe not being Navigable, but during the Inundation; the others always. This Inundation of the *Nile* is wonderful, ſome attribute it to certain *Eteſian* winds, that is, North-Weſt, which repulſe the current, and make it ſwell: Others to the quantity of *Snows* which melt; and to the continual *Rains* which fall there, where the *Nile* hath its beginnings, or there where it paſſes. Others will have the Ocean thento ſwell, and under ground communicate its waters to the *Nile*, &c. But there are ſo many different opinions touching the cauſe of this Inundation, and ſo many Reaſons are given *pro* and *con*, that a whole treatiſe might be made of it.

Its Inundation and effects.

This Inundation begins about the ſixteenth or ſeventeenth of *June*, increaſes for the ſpace of forty daies, and decreaſes for other 40 days; ſo that its greateſt height is about the end of *July*, and it ends about the beginning of *September*. If it begins ſooner or later (which is obſerved by certain Pillars in the Towns; and particularly in the Caſtle of *Rhoda*, which ſtands in a little Iſle oppoſite to old *Cairo*, and where the *Baſſa* reſides, during the ſolemnity of opening the Channel, which paſſes through and fills the Ciſterns of *Grand Cairo*; and in the Fields by the *Aſpes*, *Tortoiſes*, , *Craw-fiſh*, *Crocodiles*, &c. who remove their Eggs or Young from the Banks of the *Nile*, immediately before the Inundation, and lay them there where it v ill bound) they give judgment, whether there will be more or leſs Water; and the people are advertiſed, to the end, they may take order for what they have to do.

The King *Mæris* had expreſly cauſed to be dug the *Lake* of *Mæris*, to receive the Waters of the *Nile*, when it had too much, or to furniſh it when too little. At preſent they remedy it when little, by *Channels*, advanced towards the higher Countrey, that they may be water'd: When too much, by certain *Flood-Gates* which they open to let the Water ſlide away.

For the effect of this Inundation, is, That all that the *Nile* covers with its Water, is made fruitful, and no more. It Rains ſometimes in the Lower *Egypt*, very little in the Higher, and not ſufficient to moiſten the Earth; but when the *Nile* increaſes too much, or too little, it doth hurt: At 12 Cubits, it is yet Famine; at 15 or 16 ſufficient; at 18 or 20 abundance. The little cannot moiſten the higheſt Lands, and neareſt the Mountains. That which lies too long, leaves not time to Sow the lower Grounds; but the little, or none at all, is more dangerous then the too much; and often beſides the Famine, preſages ſome other misfortune near. So before the death of *Pompey*, there was little; before that of *Anthony* and *Cleopatra*, none at all.

Moreover, the Dew which cauſes this inundation, is imperceptible, as the ſame Author ſays: He aſſures us however, that ſo ſoon as it falls, the Air is purified, and all *Diſeaſes* and *Peſtilential Feavers* of the Countrey, (which are there very riſe) ceaſe; which makes it appear that theſe Waters are excellent, and indeed all Authors agree, that the Waters of the *Nile* are ſweet, healthful, nouriſhing, and that they keep a long time without corrupting; ſo that they be diſcharged from the Mud and Sand they bring along with them

them from the Grounds, through which they paſs. The firſt Kings of *Egypt* made ſo much account of them, that they drank nothing elſe than the Waters of *Nile*; and when *Philadelphus* married his Daughter *Berenice* to *Antiochus Theos*, King of *Aſſyria*, he gave order, That from time to time there ſhould be the Water of *Nile* carried her, that ſhe might drink no other. And the fruitfulneſs which theſe Waters cauſe, is not only known by their making the Earth ſo exceeding fertil, (which otherwiſe is as barren) ſo that if they do in a manner but throw in their Seed, they have four rich Harveſts in leſs than four Months; and in that they produce and nouriſh an infinite number of ſtrange Creatures, as *Crocodiles*, which from an Egg no bigger than that of a *Gooſe*, cometh to be 20, 25, and ſometimes to 30 foot long: His Feet are armed with Claws, his Back and Sides with Scales ſo hard not to be pierced; but his Belly ſoft and tender, by reaſon of which he receiveth many times his deaths wound: His Mouth is exceeding wide, hath no Tongue; his Jaws very ſtrong, and armed with a ſharp ſet of Teeth as it were indented: His Tail is equal to his Body in length, by which he infoldeth his prey and draws it in the Water: At the taking of his prey he gives jumps, and it is a pretty while ere he can turn himſelf; ſo that if it be not juſt before him, it may eſcape him. Four Months in the year it is obſerved to eat nothing, which is during the Winter Seaſon; the Female is ſaid to lay one hundred Eggs at one time, which ſhe is as many days a hatching; and they will live to the age of one hundred years, and growing to the laſt. Alſo this River breedeth *River-Horſes*, of old called *Hippopotami*; they have great Heads, wide Jaws, and armed with Tusks as white as *Ivory*; they are proportioned like a *Swine*, but as big in Body as a *Cow*; ſmooth Skinned, but exceeding hard. Alſo *River-Bulls*, about the bigneſs of a *Calf* of a Twelve month old, and in ſhape like a *Bull*. Alſo here are found abundance of great and ſmall *Fiſhes*. And laſtly, the fruitfulneſs of theſe Waters is ſhewed, in that the *Women* and *Cattle* which drink thereof are very fruitful, ordinarily bringing forth their Children and Young by two and three, and ſometimes by four and five at a time.

Its Water exceeding nouriſhing.

There are yet many fine things might be ſaid of the *Nile*, as its divers *Names*, its *Cataracts*, &c. But we have likewiſe omitted many things which might be ſaid of *Egypt*, which hath been famous in Holy Writ as well as in Prophane, and which would ſwell into a Volume. Let us end with ſaying ſomething of the fertility of the Country, what Commodities it produces and communicates to other Countries.

The fertility of the Country, and its Commodities.

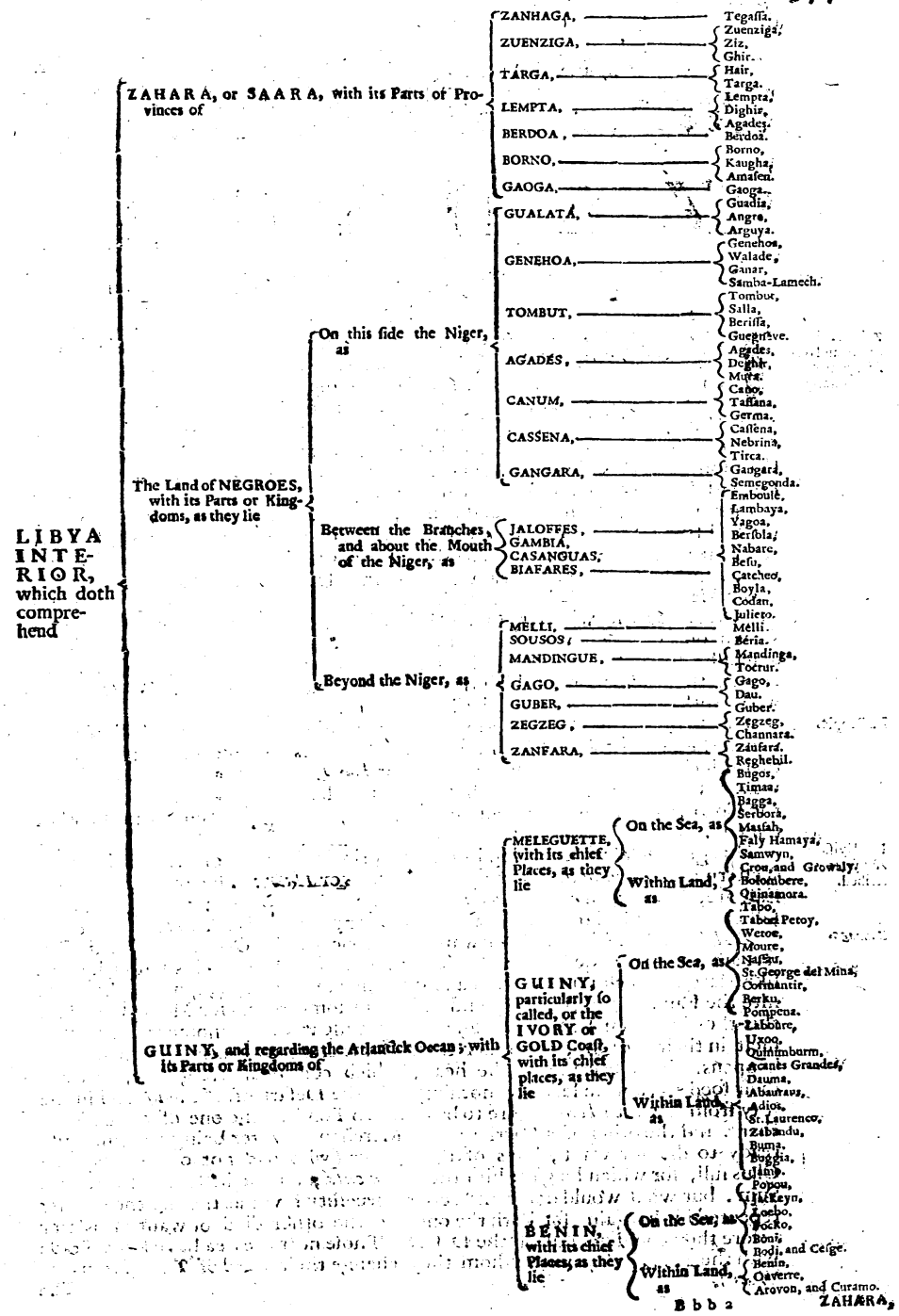
It is plentifully furniſhed with ſeveral *Metals*; the Ground along the *Nile* produceth abundance of *Corn*, *Rice*, *Pulſe*, and other Grains, that it may well be termed the Granary of the *Turkiſh*, as it was formerly of the *Roman Empire*: and it feeds much *Cattle*, produceth great plenty of *Fiſh*, hath ſtore of *Fowls*, yields excellent *Fruits*, *Lemmons*, *Oranges*, *Citrons*, *Pomegranates*, *Figgs*, *Cherries*, &c. Alſo, *Capers*, *Olives*, *Flax*, *Sugars*, *Caſſia*, *Sena*, *Oil*, *Balſom*; ſome *Drugs* and *Spices*, *Wax*, *Civet*, *Elephants Teeth*, *Silk*, *Cotton*, *Linnen Cloth*, with ſeveral good Manufactures; alſo *Hides*, beſides the *Aſhes* of two little Weeds growing about *Alexandria*, whereof quantity are tranſported to *Venice*; and without which they cannot make their *Chryſtal-Glaſſes*. We may add, that *Incenſe*, *Coffee*, and other Commodities of *Arabia* and *India*, paſs through this Country, to be tranſported into the Weſtern parts of *Turky*.

Its Palm-Trees, and the nature of their growing, &c.

Throughout the Countrey they have abundance of *Palm-Trees*, which may be reckoned among the Rarities of the Country, and that for ſeveral Reaſons. Theſe Trees are obſerved always to grow in couples, Male and Female: They both thruſt forth Cods full of Seeds; but the Female is only fruitful, but not except it grows by the Male, and having his Seed

mixt with hers, which they do not fail to do at the beginning of *March*. The Fruit it bears is known by the name of *Dates*, which in taste resemble *Figs*. The *Pith* of these Trees is White, and called the *Brains*, which are in the uppermost parts. And this is held an excellent *Sallad*, in taste much like an *Hartichoke*; of the Branches they make *Bedsteads*, *Lattices*, *&c.* Of the outward Husk of the Cod, *Cordage*; of the inner, *Brushes*; and of the Leaves, *Fans*, *Feathers*, *Mats*, *Baskets*, *&c.* This Tree is held among them to be the perfect Image of a Man, and that for these Reasons: First, because it doth not fructifie, but by *Coiture*: Next, as having a *Brain* in the uppermost part, which if once corrupted (as Mans) doth perish and die: And lastly, in regard that on the top thereof grow certain Strings which resemble *Hair*; the great end of the Branches appearing like *Hands* extended forth; and the Dates as *Fingers*. And so much for *Egypt*.

LIBYA



ZAHARA,

That is, DESART.

Zahara, its name, and deſcription of the Country.

IN our *Africa* or *Libya Interior*, we have placed *ZAHARA*, the Country of the *NEGROES* and *GUINY*. *Zahara* is an *Arab* name, and ſignifies *Deſart*; and this name is taken from the quality of the Country: ſo the *Arabs* divide the Land into three ſorts, *Cehel*, *Zahara*, and *Azgar*. *Cehel* hath only Sand, very ſmall, without any Green. *Zahara* hath Gravel and little Stones, and but little Green. *Azgar* hath ſome Marſhes, ſome Graſs and little Shrubs. The Country is generally hot and dry; it hath almoſt no Water, except ſome few Wells, and thoſe Salt: if there fall great Rains the Land is much better. But beſides the leanneſs of the Soil there is ſometimes ſuch vaſt quantities of *Graſshoppers*, that they eat and ruin all that the Earth produceth. Through this Country the *Caravans* paſs, which adds no ſmall advantage unto it. It is ſo barren and ill inhabited, that a Man may travel above a week together without ſeeing a Tree, or ſcarce any Graſs; as alſo without finding any Water, and that Water they have is drawn out of Pits, which oft-times is covered with Sand, and taſtes very brackiſh, ſo that many times Men die for want of it; which knowing the defect, thoſe Merchants which travel in this Country, carry their Water, as well as other Proviſions, on their *Camels* backs.

Its People.

The People are *Bereberes* and *Africans*, likewiſe *Abexes* and *Arabs*; of which the firſt are ſeated in the moſt moiſt places, the others wander after their Flocks: Some have their *Cheques* or *Lords*, almoſt all follow *Mahometiſm*. Though the Air be very hot, yet it is ſo healthful, that from *Barbary*, the Country of the *Negroes*, and other places, Sick people come as to their laſt remedy.

Its diviſion and parts deſcribed.

This great *Deſart* is divided into ſeven principal Parts, of which the three Weſtern are, *Zanhaga*, *Zuenziga*, and *Targa* or *Hair*: The four towards the Eaſt are, *Lempta*, *Berdoa*, *Gaoga*, and *Borno*. Almoſt every part reaches the full breadth, and all together make but the length of this *Deſart*.

Zanhaga.

ZANHAGA is moſt Weſtward, and touches the *Ocean*; with this Deſart are comprehended thoſe of *Azaoad* and *Tegazza*. This laſt yields Salt like Marble, which is taken from a Rock, and carried 2, 3, 4 or 500 Leagues into the Land of the *Negroes*, and ſerves in ſome places for Money, and for this they buy their Victuals. Theſe People uſe it every moment, letting it melt in their Mouths, to hinder their Gums from corrupting; which often happens, either becauſe of the heat, which continually reigns; or becauſe their food corrupts in leſs than nothing. In the Deſart of *Azaoad*, and in the way from *Dara* to *Tombut*, are to be ſeen two Tombs, the one of a rich Merchant, and the other of a Carrier: The Merchants Water being all gone, and ready to die for want, buys of the Carrier (who had not overmuch) one Glaſs full, for which he gave him 10000 *Ducats*; a poor little for ſo great a Sum: but what would not a man do in neceſſity? yet at the end the Carrier repented his bargain, for both the one and the other died for want of Water before they could get out of the Deſart. Thoſe near the Sea have ſome Trade with the *Portugals*, with whom they change their Gold of *Tibar* for divers Wares.

The

Zuenziga.

The Country or Deſert of *ZUENZIGA*, under the name of which paſſes that of *Cogdenu*, and is more troubleſom and dangerous than that of *Zanhaga*, as alſo more deſtitute of Water; and yet it hath many People, among others certain *Arabs*, feared by all their Neighbours, and particularly by the *Negroes*, whom thoſe *Arabs* take and ſell for Slaves in the Kingdom of *Fez*: But in revenge, when they fall into the hands of the *Negroes* they are cut into ſo many pieces, that the biggeſt that remains are their two Ears. Its chief places are *Zuenziga* and *Ghir*.

Targa.

The Deſart of *TARGA* or *HAIR* (ſome eſteem this laſt the name of the Principal Place, and the other of the People) is not ſo dry nor troubleſom as the two others. There are found many Herbs for Paſtures, the Soil indifferent fruitful, and of a temperate Air. They have ſome Wells, whoſe Water is good. In the Morning there falls ſtore of *Manna*, which they find freſh and healthful, of which they tranſport quantity to *Agades*, and other places. Its chief places are *Targa* and *Hair*.

Lempta.

LEMPTA is likewiſe eſteemed the name of a People, and its principal place alſo *Digir*. This Deſart is dry, and more troubleſom than that of *Targa*; and its People haughty, brutiſh, and dangerous to them that croſs it, going from *Conſtantina*, *Tunis*, and *Tripoli*, to the *Negroes*.

Berdoa.

BERDOA is no leſs Deſart than that of *Lempta*; but it hath *Dates* about thoſe places, which are inhabited, and which are well furniſhed with Water. They count three little walled Cities and ſome Towns, the chief bearing the name of the part.

Borno and *Goaga.*

BORNO and *GOAGA* are ſcarce Deſart. They have each their King. He of *Borno* is of the Race of *Berdoa*, and his People part Black, part White, are civil, and drive ſome Trade. But they have likewiſe their Wives and Children in common, and ſcarce any Religion, as formerly the *Garamantes*. The King of *Goaga* deſcended from a *Black Slave*, who having ſeized on the eſtate of his Maſter, after having bought ſome Horſes, ran over the Neighbouring Countries, traded for ſome time for *Slaves* againſt *Horſes*, whom he made mount on his, and became Maſter of this Eſtate more than 200 years ago. Part of his People are *Chriſtians*, as thoſe of *Egypt*; but ignorant, and almoſt all Shepherds. The chief places in *Borno* are, *Amaſen*, *Kaugha*, and *Borno*; the two former ſeated in the Lake *Semegda*: The chief place of *Goaga* bears the ſame.

The Land of NEGROES.

The Land of *Negroes*, its Name, People, and Parts deſcribed.

THE *Negroes* are People about the River *Niger*, which hath taken its Name from theſe People; and theſe People from their Colour, and not the People from the River, as ſome have believed. They are divided into many Parties or Kingdoms, of which ſome are on this ſide, others beyond, and others between the Branches of the *Niger*. We have placed on this ſide the Kingdoms of *Gualata*, *Genehoa*, *Tombut*, *Agades*, *Canum*, *Caſſena*, and *Gangara*. Beyond, thoſe of *Melly*, *Souſos*, *Mandingue*, *Gago*, *Guber*, *Zegzeg*, and *Zanfara*.

Between the Branches, and about the Mouths of *Niger*, are a great number of People, Kingdoms, and Signiories. The principal People are the *Jaloffes*, between the Branches of *Sanega* and *Gambea*; the *Caſanguas*, between St. *Domingo* and *Rio Grande*; and the *Biafares* beyond and along *Rio Grande*. The moſt famous Kingdoms of the *Jaloffes* are thoſe of *Sanega* and *Gambea*: Among the *Caſanguas*, thoſe of *Caſamanſe* and *Javem*; among the *Biafares* thoſe of *Guinala*, *Biguba*, and *Beſegue*. All theſe Kingdoms and People, and likewiſe the others which are about the *Niger*, are ſo little known, that ſome think it not worth the pains to ſet down their Names. We will ſpeak only of what ſhall ſeem moſt remarkable.

GUA

Kingdom of *Gualata.*

GUALATA is one of the least, having in it not above three Towns, of which *Guadia* is the chief; besides some few Villages. Fruitful in *Dates*; they are coal black; live in a mean condition, and without any form of Government or settled Laws. They have no Gentry among them, but to their power are civil to Strangers.

Kingdom of *Genehoa.*

GENEHOA is rich in *Grain*, *Cotton*, *Cattle*, and *Gold*; for which they have a good trade with the Merchants of *Barbary*; and by reason of the overflowing of the *Niger*, the Soil is very fertil; yet have they not many Towns: that most known is where their King resideth, who is a Vassal to the King of *Tombut*, beareth the name of the Kingdom. And here it is that their Priests, Doctors, and Merchants inhabit. The Priests and Doctors wear white Apparel, and for distinction all the rest wear black or blew *Cotton*. Its other places are, *Samba-Lamech*, *Ganar*, and *Walade*.

Kingdom of *Tombut.*

TOMBUT hath quantity of *Gold*, is well watered with the *Niger*, which makes it very fruitful, especially in Grains, and it hath good Pastures, which feed many Cattle. The chief place gives name to the Kingdom, scituate on a branch of the River *Niger*: It is the residence of their King, who hath a fair Palace, built of Lime and Stones, all the rest of the Houses (except one fair Church) is made of Mud, and Thatched. It is well filled with Merchants, who drive a good Trade betwixt this and *Fez*. This King, within this 100 and odd years, hath subdued and made tributary a great part of the *Negroes*, is magnificent in his Court, of the *Mahometan* Religion, keeps ordinarily 3000 Horse for his Guard, and hath marched against the *Xeriffs* of *Morocco* with 300000 Men. Its other places are *Salla* and *Berissa*, also seated on the *Niger*, *Gugneve*, *Carogoli*, and *Cassali*.

Kingdom of *Agadés.*

AGADES hath great quantities of Cattle, and are much given to grasing and looking to them, making it their livelyhood, using the Ancients custom of Tents, and removing up and down for the conveniency of fresh and good Pasture for their Cattle; and among their Moveable Towns their chief bears the name of the Kingdom in which the King resideth, who is Tributary to him of *Tombut*. Its other places are, *Deghir*, *Mayma*, and *Mura*, seated on a Lake of the *Niger*.

Kingdom of *Canum.*

CANUM, besides its Cattle, hath *Grain*, *Rice*, *Cotton*, and *Fruits*; hath Springs of Running-water, as also a good River, which issueth forth many little Rivulets; it is well stored with *Wood*, is very populous; and hath several Towns; the chief being *Cano*, wherein is the Palace of their King, who is also Tributary to him of *Tombut*. This Town is environed with a Wall of Chalk-Stone, of which most of the Houses are built, and well frequented by Merchants. Its next chief place is *Germa*.

Kingdom of *Cassena.*

CASSENA is craggy, barren, and very Woody; yet it yields some store of *Barley* and *Millet*. The People live very meanly, wanting many things that the other Kingdoms have plenty of; and their Houses and Towns are as poor, among which *Cassena* is the chief, next *Nebrina* and *Tirca*.

Kingdom of *Gangara.*

GANGARA is rich in *Gold*, hath not many Towns, the chief whereof bears the name of the Kingdom, in which the King resideth, being also the habitation of many Merchants; and its King is very absolute, and hath a great Revenue. His Militia is in some esteem among the *Negroes*, being observed to keep in continual pay 500 Horsmen, and 7000 Men which use *Bows* and *Scimitars*. The next is *Semegonda*, seated on a branch of the *Niger*.

Kingdom of *Melly.*

MELLY is a spacious and fruitful Kingdom, seated all along on a branch of the River *Niger*, which makes it very fertil in *Corn*, *Cattle*, *Dates*, *Fruits*, *Cotton*, *Wool*, &c. And by reason of the conveniency of the said River, hath a good Trade for their Commodities with other Countries. Its chief Town takes its name from the Kingdom, containing about 6000 Houses, indifferently well built, but unwalled. It is the Seat-Royal of their King; they have likewise here a famous *Colledge*, and many *Temples*, which are well furnished with Priests and Doctors, who read the *Mahometan* Law, and under whom the youth of this Kingdom, as also those of *Tombut*, and other parts of the *Negroes* are educated. These People are esteemed the most ingenious, the wittiest, and most

most civil to Strangers of all the *Negroes*. Their King is also tributary to the King of *Tombut*.

Kingdom of *Sousos.*

SOUSOS hath divers petty Kingdoms, and all subject to their *Concho* or *Emperour*; among which that of *Bena* hath seven others under it. Its quarter is Mountainous, covered with Trees, and well watered with Rivers. It hath some Towns; its chief takes its name from the Kingdom, and yields *Corn*, *Cattle*, *Fruits*, &c.

Kingdom of *Mandingue.*

MANDINGUE begins at the River *Gambea*, and reaches near 200 Leagues up in the Land: They have quantity of *Gold*, good *Ships* of War, and *Cavalry*; and there are divers Kings or Lords in *Guiny*, which are his Tributaries.

Kingdom of *Gago.*

GAGO hath store of *Gold*, *Corn*, *Rice*, *Fruits*, and *Cattle*, but no *Salt* besides what is brought from other places, and which is ordinarily as dear as *Gold*. The People are idle and ignorant, but bear so great a respect to their King, that how great soever they be, they speak to him on their knees; and when they are faulty, the King seises on their Goods, and sells their Wives and Children to Strangers, who remain Slaves all their lives. But besides these, there is here (as well as in other parts of the *Negroes*) great Traffick for Slaves, either of certain Neighbouring people, which those of the Country can take, or of the Malefactors of the Country, or of the Children whom the Fathers or Mothers sell, when they are in need, or when they please them not. And these Slaves are bought by many people of *Africa*; but more by the *Europeans*, who transport them into the Isles of St. *Thomas*, *Cape Verd*, the *Canaries*, *Brasil*; and the *English*, to the *Barbadoes*, *Carolina*, *Jamaica*, and elsewhere for Slaves. They have many Towns and Villages, among others that of *Gago* is the chief, and is the residence of their King; as also of many Merchants, and containing about 4 or 5000 Houses, but unwalled.

Kingdom of *Guber.*

GUBER is well fenced with Mountains, doth produce *Rice* and *Pulse*; and above all, have exceeding great flocks of *Cattle*, from which they get their livelyhood. This Kingdom is very populous, and well stored with Towns, its chief bearing the name of the Kingdom, which is well inhabited by Merchants, and containing about 6000 Houses; being also the residence of their King. The People are ingenious, good Artificers, and make several rich Manufactures.

And the Kingdoms of *Zegzeg* and *Zanfara.*

ZEGZEG and *ZANFARA* are barren, the People idle and ignorant, have some Towns, whose chief are so called; the Land yields, *Corn*, *Grass*, &c. and feeds great quantities of Horses.

The fertility of the Land of the *Negroes.*

The Country of the *Negroes* is esteemed as fertil as those watered with the *Nile*, It bears twice a year, and each time sufficient to furnish them with *Corn* for five whole years; which makes them not sow their Lands, but when they judge they shall have need. They keep their *Corn* in Pits and Ditches under Ground, which they call *Matamores*.

GUINEA, or GUINY.

The Coast of *Guiny*, its extent and bounds.

GUINY is the Coast of *Africa*, which is found between the River *Niger* and the *Equinoctial Line*. Some give it a larger extent, some a less: There are they who begin it on this side the *Niger*, and continue it unto the Kingdom of *Congo*. We have comprehended in the Country of the *Negroes* that which is about the *Niger*; and in the Lower *Æthiopia*, that which is beyond the Gulph of St. *Thomas*; And so *Guiny* will remain between the Cape of *Serve Leon*, which will bound it on the West, and against the *Negroes*, to the River of *Camarones*, which is on the East, will separate it from the Lower *Æthiopia*. This Coast right from East to West is 7 or 800 Leagues long, and not above 150 or 160 in breadth. The form being much more long than broad, we will divide it into three principal parts, which we will call *MELEGUETE*, *GUINY*, and *BENIM*. This the most Eastward, the first the most West, and

Its parts described.

and the other in the middle; yet each of these three parts separated make the breadth, and the three together the length of this *Guiny*. After this *Guiny* we will speak something of what is on this side towards the *Niger*, and of some Isles which are beyond, as St. *Thomas*, &c. Under the name of *MELEGUETE*, we comprehend that which is between the Capes of *Serre Leon* and of *Palmes*: Under the particular name of *GUINT* we esteem not only that which is between the Capes of *Palmes* and of *Three Points*; but likewise that which advances to the River *Volta*, and beyond, where the Kingdom of *Benim* begins, and ends not till the River *Camerones*. Of these 3 parts *Guiny* is the largest and best known, communicating its name to the rest. Its Coast, which is between the Capes of *Palmes* and that of *Three Points*, is called the Coast of *Ivory*; that which is beyond the Cape of *Three Points*, the Coast of *Gold*: for the abundance of *Gold* and *Ivory* found in the one and the other.

The Parts of *Mitleguete* and *Guiny*.

The *Ivory* and *Gold* Coasts, and their Trade.

The Coast of *IVORT* is very commodious, and well inhabited. The *English*, *French*, *Hollanders*, and *Hanse-Towns* trade likewise in divers Ports on the same Coast; fetching thence, *Gold*, *Ivory*, *Hides*, *Wax*, *Amber-greece*, &c. On the *Gold* Coast are divers Kingdoms or Realms, as of *SABOU*, *FOETU*, *ACCARA*, and others. The Kingdom of *SABOU* is esteemed the most powerful of all, and that his Estates extend sixty and odd Leagues on the Coast, and near 200 up in the Land. In 1482 the *Portugals* built on the Coast of *FOETU* the Fort of St. *George de la Mina*, and long time after the *Hollanders* that of *Nassau*, adjoyning to the Town of *Moure*, on the Coast of *Sabou*; the one and the other to maintain their Traffick. Its other places, and which are within Land are, *Labore*, *Uxoo*, and *Quinimburm*.

The Part of *Mitleguete*.

MELEGUETE took its name from the abundance of *Meleguete*, here gathered of divers sorts: It is a Spice in form like *French Wheat*; some of a taste as strong and biting as *Pepper*: from which the *Portugals* receive great gain, but the *English*, *French*, and *Hollanders* bring it. The *Portugals* call it *Pimienta-del-Rabo*; the *Italians*, *Pepe della Goda*; *Tail Pepper*, that is, *Long Pepper*. Of their *Palm Trees* they make *Wine* as strong as the best of ours: They have likewise, *Gold*, *Ivory*, *Cotton*, &c. Its chief place is *Bugos*, on the Cape of *Serre Leonne*.

The Kingdom of *Benim*, with its Inhabitants described.

The Kingdom of *BENIM* hath more than 250 Leagues of the Coast; Cape *Formoso* dividing it into two parts: That which is on the West forms a Gulph, into the middle of which the River *Benim* disburthens it self; and more to the West that of *Lagoa*: That which is on the East extends it self on a right line, where the *Rio Real de Calabari*, and the *Rio del Rey*, disburthen themselves near to that of *Camarones*, which ends the Estate towards the East. This last part is more healthful than that of the particular *Guiny*, the Inhabitants living 100 years and more. The Land produces the same Fruits, and feeds the same Beasts with *Guiny*, and its People are more courteous to Strangers. Their principal City, so called, is esteemed the greatest and best built of any, either in *Guiny* or the Land of the *Negroes*. Its King is powerful, and very loving to his Subjects; they are all much addicted to Women, the King being said to keep about 5 or 600 Wives, with all which, twice a year he goeth out in great pomp, as well for Recreation, as to shew them to his Subjects; who according to their abilities do exceed: Those of the gentile or better sort keeping 20, 30, 40; others 50, 60, or 70: and those of the poorest rank 5, 10, or 12. Their Custom both for Men and Women, till they are married, is to go naked, and after their cloathing is only a Cloth, which is tied about their Middles, and hangs down to their knees. Its other chief places are, *Ouwerre*, *Bocko*, *Boni*, and *Bodi*.

The Soil of *Guiny*.

Its fertility and commodities.

The Soil of *Guiny* is generally fertil, the most part bearing twice a year, because they have two Summers and two Winters. They call it Winter when the Sun passes their *Zenith*, and that the Rains are continual. All the whole Country is very fertil, abounding in *Corn*, *Rice*, *Millet*, and in many sorts of *Meleguetes*, in Fruits, as *Oranges*, *Citrons*, *Lemmons*, *Pomegranates*, *Dates*, &c. Also in *Gold*, both in Sand and in Ingots, in *Ivory* or *Elephants Teeth* in great

great abundance, in *Wax*, *Hides*, *Cotton*, *Amber-greece*; they extract *Wine* and *Oyl* from their *Palm-Trees*; and of this *Oyl*, and the *Ashes* of the *Palm-Tree*, they make excellent *Soap*. They have many *Sugar-Canes*, which are scarce at all Husbanded: They have *Brasil-Wood*, better then that which cometh from *Brasil*: they have abundance of *Wood*, proper to build and Mast Ships; and *Pearls*, which they find in *Oysters*, towards the *River Des Ostros*, that is, of *Oysters*; and of St. *Anne*, between the Branches of the *Niger*. And for these good *Commodities* in way of Barter, they truck or take course *Cloth*, both *Linnen* and *Wollen*; *Red Caps*, *Frize Mantles* and *Gowns*; *Leather Baggs*, *Sheep-skin Gloves*; *Guns*, *Swords*, *Daggers*, *Belts*, *Knives*, *Hammers*, *Axheads*, *Salt*, Great *Pins*, little pieces of *Iron*, which they convert to several uses; *Lavers* and great *Dutch Kettles* with two handles. *Basons* of several sizes, *Platters*, *Broad Pans*, *Posnets*, *Pots*, &c. made for the most part of *Copper*, which are sometimes *Tinned* within. Some of which *Utensils* are made of *Tinn*, and others of *Earths*, which are here desired: Also *Looking-Glasses* *Beads*, *Corals* and *Copper*, *Brass* and *Tinn Rings*, which they wear about them for their adornment. *Horse-tails* which they use to keep away the *Flies* which annoy them, as also when they Dance. And lastly, certain *Shels* which pass instead of *Money*; having here, and in many other Countries, no current *Money* of *Metal*, as the *Europeans* have; but make use of those *Shells*, which they hang in bundles upon strings; for which they buy in their *Markets* such things as they want.

Commodities here found.

Its Beasts and their nature. The *Elephant*.

Among their *Beasts* they have *Elephants*, which are said to be the biggest of all four footed *Beasts*: Of nature they are very gentle, docile, and tractable; they live to a great age, seldom dying till the age of 150 years. They are very serviceable, both in War and Peace, and as profitable by reason of their Tusks. It is said, That when the *Male* hath once seasoned the *Female*, he never after toucheth her. Next the *Elephants* may be reckoned the *Musk-Cats*, which with Springs they take in the *Woods*, when they are young, and keep them in *Hutches*, and take from them the *Musk*, which they keep in *Glasses* or *Pots*, and so vend it: And these *Cats* they vend to the *English* and other Nations at good rates. Then their *Apes*, *Monkeys* and *Baboons*, which are strong and lusty being taken and brought to it young, serve like men: They send them to fetch Water at the River, make them to turn meat at the Fire, serve at Table to give Drink; but they must be very watchful, otherwise they will do mischief, and eat the meat themselves; and these are much beloved by their *Women*, doing the duty of *Men*, which they are as desirous of themselves, and hating *Men*. Again, there are some of these *Monkeys* or *Apes*, which love *Men* and hate *Women*. They have variety of *Birds*, among which, they have several sorts of *Parrots* which are brought to talk. Their *Fruits* are excellent, as *Oranges*, *Lemmons*, *Citrons*, *Pomegranates*, *Dates*, *Annanas* or *Pynes*, which for smell and taste, resembleth all *Fruits*. *Trennuelis*, a *Fruit* so delicate and delicious that 'tis thought it was the *Fruit* in *Paradise* which was forbidden *Adam* and *Eve* to eat of. *Iniamus*, *Battatas*, *Bachonens*, the *Palm-Tree*, and above all here is a *Tree* called the *Oyster Tree*, by reason of its bearing *Oysters* thrice every year; a thing, if report may be credited, is true; and if true, very strange.

The Musk-Cats

Monkeys, *Apes*, and *Baboons*.

Its *Birds*. Its Fruits.

Its People.

The *Inhabitants*, especially before the coming of the *Portugals*, were rude and barbarous, living without the knowledge of a *God*, *Law*, *Religion*, or *Government*, very disingenious, and not caring for *Arts* or *Letters*. They are much addicted to *Theft*, and take it for an honor, if they can cheat or steal any thing, (though not considerable) from a *White Man*. They are very perfidious, *Lyars*, given to *Luxury*; in matter of *Justice*, they are indifferent severe, punishing oftimes with death; but paying a fine will free them; and the place of *Judicature* is in the open *Market Place*. Their Food is gross and beastly, as is their *Habitations*, mean and beggerly. They go naked, save about their Waist they tye a piece of *Linnen*; yet very proud and stately: They are of a *corpulent body*, *flat nosed*, *broad shouldred*, *white eyed* and *teeth'd*, *small haired*, &c. In matters of *Religion*, they are great *Idolaters*, worshiping

Their disposition.

Their Justice.

Their Food and Apparel.

Their Stature

Their Religion & belief.

Beasts, *Birds*, *Hils*, and indeed, every strange thing which they see; they hold there is two Gods, one doth them good, and the other hurt; and these two Gods, they say, fight together. Also they believe there is a God, which is invisible, which they say is black; yet of late they have tried many *Forms of Religion*, as *Judaism*, *Mahometism* and *Christianity*; but care not much for any. Nevertheless, some of them believe they die not, and to that end, give their dead bodies something to carry with them into the other World. They keep their *Fetissoes day*, that is, one day in seven for a day of rest, as their *Sabbath*, which is on a *Tuesday*, (a day that no other Nation in the World keeps) very strict; at which time, they offer Meat and Drink to their *Fetisso* or *God*, on a four square place, covered with *Wires* or *Fetissoes straws*, which the *Birds* (by them called *Gods Birds*) devour. During which time, the *Fetissero* sits upon a Stool with a *Pot* of *Drink* in his hand, using several *Ceremonies*.

Their Marriage, their abode.

Amongst their *Barbarous Customs* they have one very good, and that is, when their *Daughters* are of a fitting age to marry, they put them into *Houses*, which are in the nature of *Monasteries*, where for a year they are educated by *Old Men* of good repute amongst them. And at the expiration of the said year, they are brought well habited (according to their *Custom*) and accompanied with *Musick*, and *Dancing*; and when a *Young-man* makes choise of any of them, he bargains with her *Parents*, and satisfies the *Old Man* that educated her, for his pains and charges (which is not much) and then takes her to *Wife*. The Portion being thus paid, they meet one another naked, and the *Woman* swears to be faithful to the *Man*, both at *Bed* and *Board*, and so the *Marriage* is concluded: But the *Man* sweareth not, being at liberty; so that upon the least offence, he may put her away, or force her to pay a Fine of so many *Potoes* of *Gold*: And according to the ability of a *Man*, he may buy and keep as many *Wives* as he pleaseth; among which, the eldest is subservient to the youngest. The *Man* never lieth with any of his *Wives*, neither eateth with them, but on *Tuesdays*, which is their *Sabbath*. And although the *Husband* commands, yet the *Wife* is the *Purse-bearer* until she be with *Child*, and ready to be delivered; at which time, being stark naked, and in the *Field*, among the *People*, she throweth the bag to her *Husband*, until taking a handful of *Manniget* and a spoonful of *Oyl*, she goeth abroad the next day, as well as if she had not been with *Child*, or suffered any pain; and then feasteth her Neighbors, circumciseth the *Child*; and after it hath lain sprawling upon the ground two or three daies, she taketh it, and carrieth it on her shoulders, like those which we call *Gipsies*; and when the *Child* is about four years of age, the *Mother* bringeth it to the *Father*, who teaches it to *Swim*, make *Nets*, *Fish* and *Row*, giving it nothing but what it can earn; and when it can be master of so much *Gold* as will purchase *Linnen* to make it a *Wastcloth*, it is rich.

How they bring up their Children.

Their War.

In *Guiny* there are several Petty Kingdoms who make War one against the other; during which War, they destroy and burn the Countrey, to the end that the enemy may find no succour, removing their *Goods* to a Neighboring Kingdom, with whom they have peace; and the whole Kingdom surrounds the King, for his defence and safeguard; and thus they march.

Their Weapons.

Their Weapons are the *Bow* and *Arrows*, with which they are so expert, that they can shoot within the breadth of a *Shilling*. Also they make use of the *Poniard*, the *Dagger*, the *Shield* and *Turbant*. In which Wars, those they kill, they eat; those they take, they make *Slaves*; and such are those, that the *English*, *Dutch* and other Nations buy of them; and whom they subdue, they take *Hostages* from.

The Riches, Revenue, State and Power of their Kings.

Their Kings are not over-rich, that Revenue which they have comes from the *Customs* and *Tithes* upon *Goods*; as also in the two *Ounces* of *Gold* paid by every Man that lieth with anothers *Wife*: Likewise, in *Fines* levied for *Theft* for their ransom; and lastly, in the *Sixpenny* forfeitures for bringing their *Weapons* within any of their Cities: Neither do they live in great pomp and grandure; a poor Cottage with us, being with them a Princes Palace. Yet they are had in such reverence, that none cometh, to speak with them (though of their *Nobility* and *Gentry*) but must crawl upon the hands and knees,

knees, and so deliver their business unto them. But the *White Men* are had in so much respect (though never so poor) that they sit cheek by jowl by their Kings. Upon the Coronation day, as also upon the Quarter days, when the Kings receive their Customs, they make a maguificent Feast which lasteth for two or three days; at which times they have all the varieties in their way as the Countrey will afford; and many of them are held very powerful.

And here, on this Coast of *Guiny*, the *Dutch* have been great Traders, having several Holds and Factories, but of late in *Anno* 1663 and 64, the *English* have had many struglings with the *Dutch*, whom they have pretty well subdued; and have now settled their several Factories, and are incorporated into a Society at *London*, called the *Royal African Company*, who have many Factories and settlements, driving a very considerable Trade, to the great benefit of the Nation.

Isles of St. THOMAS, *&c.*

BEtween *Guiny* and the *Lower Æthiopia*, is a Guph, where are the Isles of St. *THOMAS*, *Princes Island*, *Fernand Poo*, *Annobon* or *Bon Anne*; and farther in the *Great Sea*, St. *Matthew*, the *Ascention*, St. *Helena*, *&c.* These Isles have their names from the day whereon they were discovered: That of the *Prince*, because its Revenue was designed for the Prince of *Portugal*; that of *Fernand Poo*, from him that discovered it.

The Island of St. *Thomas* described.

But of all these Islands that of St. *THOMAS* is by much the greatest, and the best: Its form is almost round, it is thirty, others say forty; others, and with more appparent truth 60000 Paces Diameter; which are 180000 Paces, or 65 Leagues circuit, seated under the *Æquator*; and by reason of the excessive heats which are there predominant: The Air is found very prejudicial and unhealthful to strangers, especially to the *Europeans*, who scarce ever reach to the age of fifty years, and the Women much less: Yet the Natives of the Countrey live commonly 100 years, and without sickness. They have no Rain but only in *March* and *September*, yet by reason of the Dews, which at all other times of the year falls, the Earth is well moistned, so that it brings forth all sorts of *Fruits*, *Roots* and *Pot-Herbs*; but their principal riches is their *Sugars*, of which, they have sometimes exported 150000 *Arrobes*, each *Arrobe* being 32 *l.* weight, which is five Millions of pounds yearly: Also *Ginger*, *&c.* there is carried them in exchange for their *Commodities*, *Wines*, *Oyls*, *Cheese*, *Stuffs*, *Beads*, *Drinking-glasses*, *Corn-Flower*, and little white Shels which serve for Money in *Æthiopia*, as in *Guiny*, *&c.* They Trade in the Neighbouring Coasts, where are the Rivers of *Barca*, *Gampo*, St. *Benito*, St. *Juan*, and the Isle of *Coriseo*: Those *Grains* and *Vines* which they would have sown and Planted, have not thriven, the Earth being too fat. They make their Bread of divers Roots; have their Wood from *Palm-Trees*: They feed much Fowl, have abundance of several sorts of Fish, both great and small, among others, *Whales*. They have also great store of four-footed Beasts, among others, their *Hogs* bear the Bell; which being fed with *Sugar-Canes*, after the Juyce is drawn out, grow fat, and become so excellent, that their *Pullain* is accounted for no value to them, even for sick people. The middle of the Isle is filled with Mountains, which are loaden with a great number of Trees, which are always covered with Clouds, which so moisten the Trees, that from them falls so much fresh water, as makes many little streams, which waters all parts of the Island. The *Portugals* have built the City *Pavoasan*, containing about 7 or 800 Houses, and some Forts, to defend the Port: They have erected a Bishoprick, and do allow of no Religion, but the Christian. This Town is well frequented by *Portugal* Merchants, who trade in the Commodities aforesaid. The Inhabitants are *Negroes*, and very black.

inces Iſland.

PRINCES ISLAND hath a little City, and the Inhabitants live conveniently; the Iſle being fruitful, yielding *Fruits*, *Sugar*, ſome *Ginger*, &c. Once taken by the *Hollanders*, who for ſome reaſons ſoon abandoned it.

The Iſland of *Annobon.*

The Iſland of *ANNOBON* yields *Sugars*, *Cottons*, *Cattle*, and exceellent Fruits eſpecially large *Oranges*. In this Iſle there is a Town of 100 or 120 Houſes of Blacks, who are governed by ſome few *Portugals*.

The Iſle of St. *Hellena.*

The Iſland of St. *HELLENA* was firſt diſcovered by the *Portugals* upon the 21 of *May*; on which day, is celebrated the memory of St. *Helena*, the Mother of *Conſtantine* the Great; from whom it took its name. This Iſle is ſo fertile, that it is obſerved no place in all *Europe* yields the like plenty; for with manuring and cultivating the Earth, it produceth excellent Fruits, which are here found all the year: It hath great ſtore of *Barbary Hens*, *Feaſants*, *Partridges*, *Pigeons*, *Quails*, *Peacocks*, with ſeveral ſorts of ſmall Birds in great plenty; it hath alſo *Goats*, *Swine*, &c. Yet this Iſle is not inhabited, but ſerves for the *Engliſh*, *Portugals*, *Spaniards* and *Hollanders*, to refreſh themſelves in going, but for the moſt part in returning from the *Indies*; it being ſufficient to furniſh Ships with Proviſion for their Voyage; here being *Salt* to preſerve the Meat from ſtinking; and beſides, the Air is ſo healthful, that they often leave their ſick people there, who in a ſhort time are reſtored to perfect health; and by the next Ships that put in there, are taken in again. During which time, they find wherewithal to feed them: But ſome years ago, the *Hollanders* ruined all that was good, only to ſpite the *Spaniards*, who afterwards did the ſame, that the *Engliſh*, *Hollanders*, &c. might have no profit by it. This Iſland is well furniſhed with good Waters, which alone is a great refreſhment to Ships.

ther Iſles not inhabited.

The Iſlands of *FERNAND POO*, St. *MATTHEWS*, and *ASCENSION*, are alſo not inhabited, and of no great account, nor much known; which we ſhall paſs by, ſaying only, that they have ſome. *Fowls*, *Wild Beaſts*, and their Seas yield *Fiſhes*.

NUBIA.

Nubia and its bounds.

NUBIA is bounded on the North, Weſt and South, almoſt every where with Mountains; which ſeparate it from the Deſart of *Barca* and *Egypt* on the North; from *Saara* and the *Negroes*, on the Weſt; aud from the *Abyſſins*, on the South; the reſt towards the Eaſt, is bounded in part by the *Nile* which ſeparates it from the Iſle of *Gueguere*; in part by an Imaginary Line, which ſeparates it from divers Provinces; of which, ſome belong to the *Turks*; who hold all that is on the *Red Sea*, which they have taken from the *Abyſſins*.

Its length and breadth. Its chief places

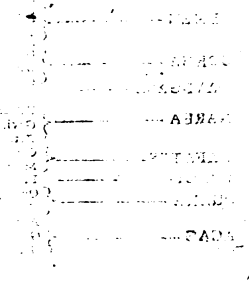
NUBIA thus taken, makes a long ſquare, whoſe length from South-Weſt, to North-Eaſt, is about 400 Leagues; and its breadth from South-Eaſt, to North-Weſt, almoſt every where, 200 Leagues. The chief Cities of *Nubia*, are, *Cuſa*, *Gualva*, *Dancala*, *Jalac* and *Sula*, according to the *Arab* of *Nubia*: Moreover and in the ſame Author, I find that *Tamalma*, *Zaghara*, *Mathan*, *Angimi*, *Nuabia*, *Tagua*, and ſome others fall likewiſe in *Nubia*; and by ſome Authors *Gorham*, which ſome would put among the *Negroes*, ſhould be likewiſe in *Nubia*, becauſe it is on the *Nile*: There where it can have no communication with the *Negroes*, who ought to be upon, and about the *Niger*. Likewiſe *Damocla*, towards the *Negroes*, and *Bugia* towards *Egypt*, ought to be eſteemed in *Nubia*.

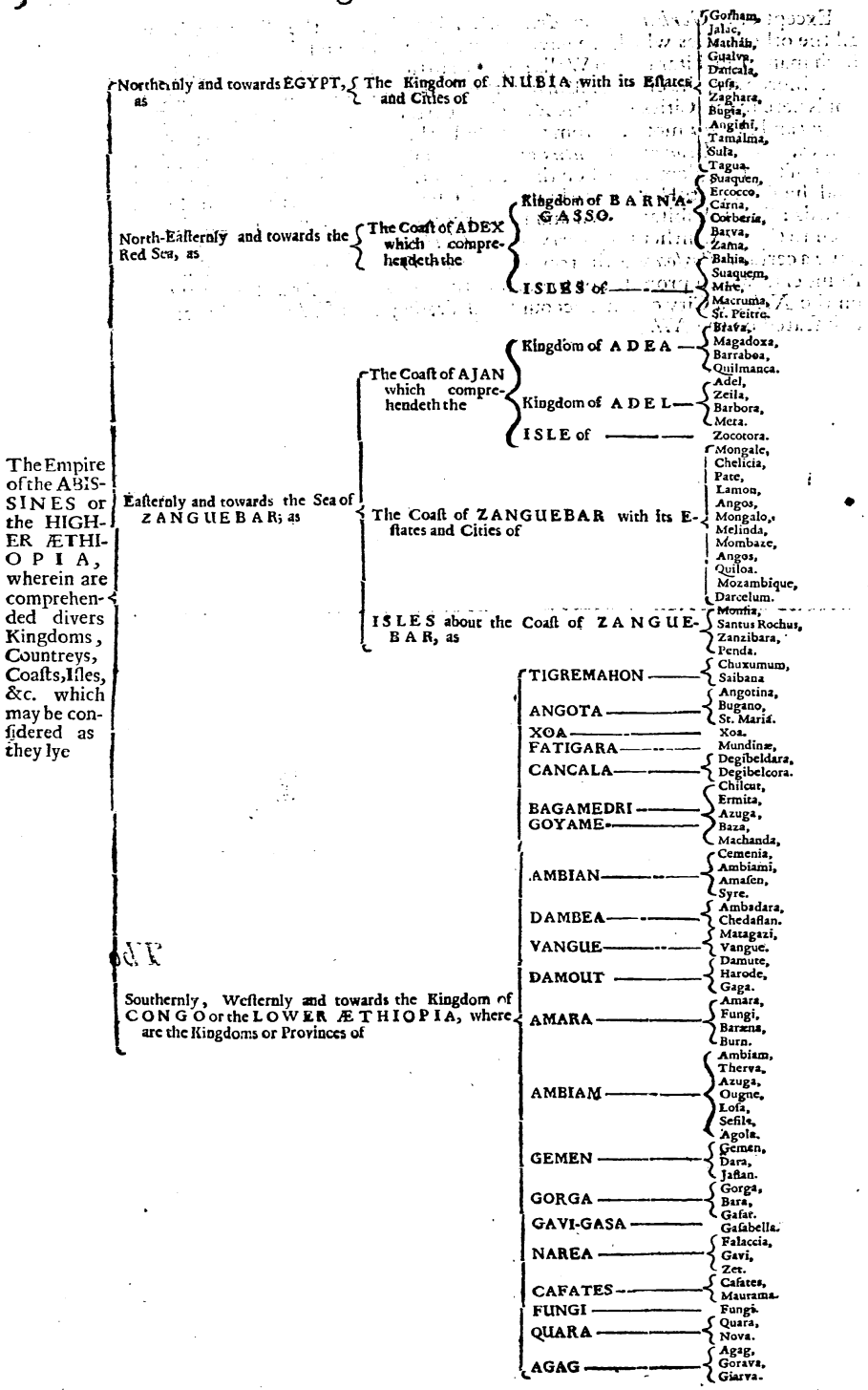
The City of *Gorham.*

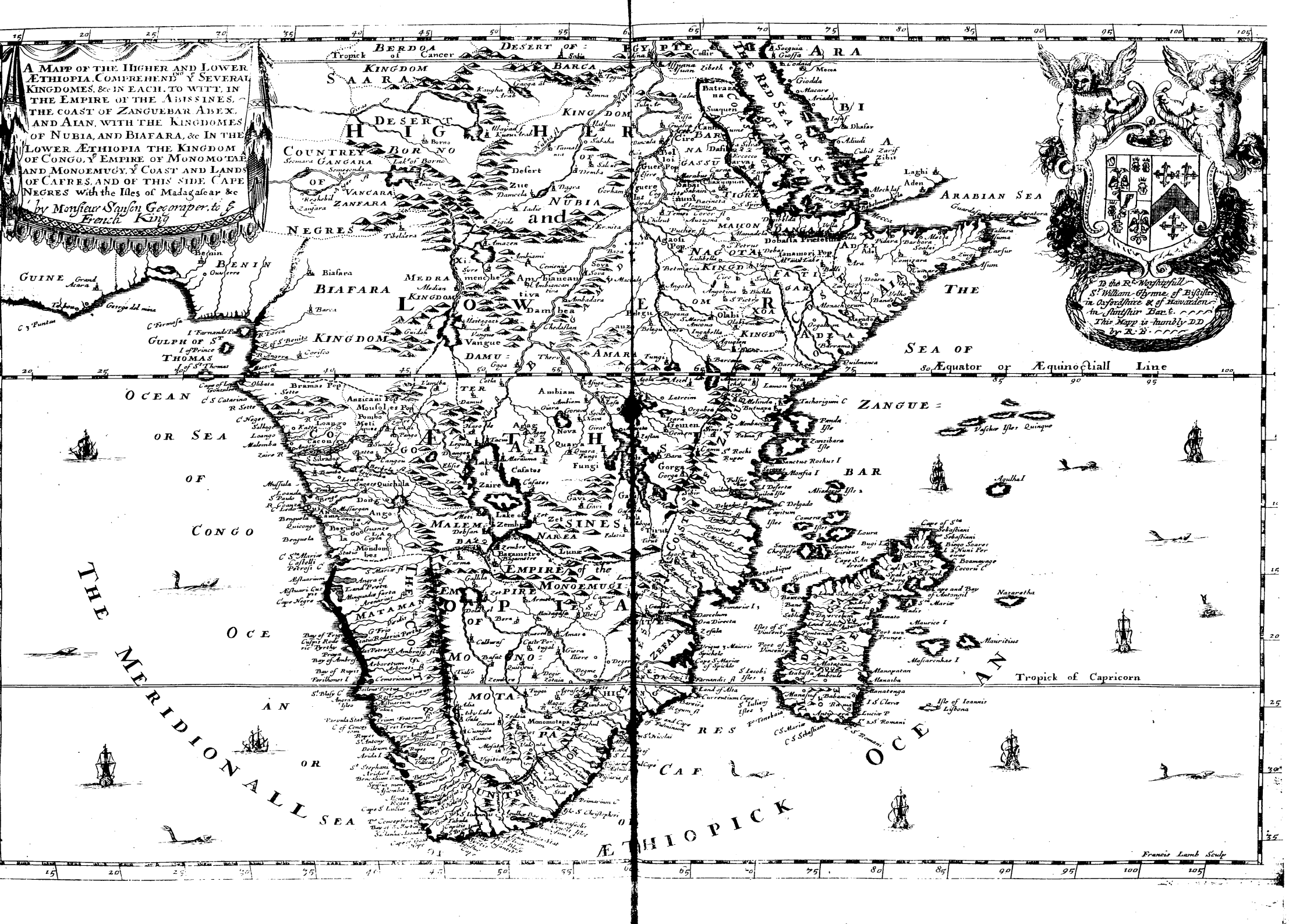
Gorham is on the *Nile*, and on the Coaſt of the Iſle *Gueguere*. *Sanutus* makes a Kingdom, a Deſart, and a People of this name, and extends them almoſt all the length of the Iſle *Gueguere*; not making any mention of the City of this name, nor *John Leon* of *Africa*, nor the *Arab* of *Nubia*, nor *Vincent Blanck*, who ſaith, he hath been in theſe quarters, and ſpeaks only of the Deſart of *Gorham*. Other Authors make mention of this City, and deſcribe it on the *Nile*. *Sanutus* ſaith, that there are found *Emeralds* in thoſe Mountains, which bound *Gorham* on the South.

Except

Except only *Gorham*, the *Arab* of *Nubia* obſerves the diſtances between all the other Cities which we have taken notice of; and ſaith, that *Tamalma* hath many Inhabitants, no Walls; makes little account of *Mathan* and *Angimi*: Moreover, he eſteems *Mathan* the Reſidence of the King of *Canem*, who holds here many Cities; makes *Zaghara* better, and ſaith, it hath ſome Trade, *Tagua* and *Nubia* more, from which laſt the Region and People took their names. *John Leon* and *Sanutus* after him, eſteems *Dancala* or *Dangala*, the chief of the Kingdom, ſeated on the *Nile*, and that it hath about 10000 Families. And he ſaith, its Houſes are built with Chalk, and covered with Laths or Boards: The Inhabitants civil and rich, driving a good Trade through all *Egypt*, even to *Cairo*; whither they carry *Arms*, *Cloths*, *Civet*, *Sanders* and *Ivory*. They have a certain *Poyſon* worth 100 *Ducats* an *Ounce*, which they ſell only to ſtrangers, which promiſe not to uſe it in the Countrey. And alſo *Bugia* ſeated on the *Nile*, a City of ſome account and Trade; as is *Jalac*, *Gualva* and *Cuſa*, alſo ſeated on the *Nile*.




The Empire of the ABISSINES or the HIGHER ÆTHIOPIA, wherein are comprehended divers Kingdoms, Countreys, Coasts, Isles, &c. which may be considered as they lye
Northernly and towards EGYPT, as
The Kingdom of NUBIA with its Estates and Cities of
Gotham, Jalac, Mathin, Gualva, Danicala, Cufa, Zaghare, Bugia, Angishi, Tamalma, Sula, Tagua.
North-Easternly and towards the Red Sea, as
The Coast of ADEX which comprehendeth the
Kingdom of BARNAGASSO.
Suaquen, Ercocco, Carna, Corberia, Barva, Zama.
ISLES of
Bahia, Suaquem, Mire, Macruma, St. Peitre.
Easternly and towards the Sea of ZANGUEBAR, as
The Coast of AJAN which comprehendeth the
Kingdom of ADEA
Blava, Magadoxa, Barrabea, Quilmanca.
Kingdom of ADEL
Adel, Zeila, Barbora, Mera.
ISLE of
Zocotora.
The Coast of ZANGUEBAR with its Estates and Cities of
Mongale, Chelicia, Pate, Lamon, Angos, Mongalo, Melinda, Mombaze, Angos, Quiloa, Mozambique, Darcelum.
ISLES about the Coast of ZANGUEBAR, as
Monfia, Santus Rochus, Zanzibara, Penda.
Southernly, Westernly and towards the Kingdom of CONGO or the LOWER ÆTHIOPIA, where are the Kingdoms or Provinces of
TIGREMAHON
Chuxumum, Saibana
ANGOTA
Angotina, Bugano, St. Maria.
XOA
Xoa.
FATIGARA
Mundinæ.
CANCALA
Degibeldara, Degibelcora.
BAGAMEDRI
Chilcut, Ermita, Azuga,
GOYAME
Baza, Machanda.
AMBIAN
Cemenia, Ambiami, Amasen, Syre.
DAMBEA
Ambadara, Chedaslan.
VANGUE
Matagazi, Vangue.
DAMOUT
Damute, Harode, Gaga.
AMARA
Amara, Fungi, Barænæ, Burn.
AMBIAM
Ambiam, Therva, Azuga, Ougne, Lofa, Sefile, Agola.
GEMEN
Gemen, Dara, Jaffan.
GORGA
Gorga, Bara, Gafar.
GAVI-GASA
Gafabella.
NAREA
Falaccia, Gavi, Zet.
CAFATES
Cafates, Maurama.
FUNGI
Fungi.
QUARA
Quara, Nova.
AGAG
Agag, Gorava, Giarva.


A Mapp of the Higher and Lower Æthiopia, Comprehend^g y^e Several Kingdomes, &c in Each, to Witt, in the Empire of the Abissines, the Coast of Zanguebar Abex, and Aian, with the Kingdomes of Nubia, and Biafara, &c In the Lower Æthiopia the Kingdom of Congo, y^e Empire of Monomotapa and Monoemugy, y^e Coast and Lands of Cafres, and of this Side, Cape Negres with the Isles of Madagascar &c
by Monsieur Sanson Geocraper to y^e French King
To the R^t Worshipfull S^r William Glynne, of Bisister in Oxfordshire & of Hawarden in Flintshir Bar^t. This Mapp is humbly DD by R. B.
Francis Lamb Sculp
Tropick of Cancer
Equator or Æquinoctiall Line
Tropick of Capricorn
Æthiopick Ocean
Meridionall Sea
Red Sea or Sea of Mecca
Arabian Sea
Sea of Zanguebar
Ocean or Sea of Congo
Gulph of S^t Thomas
Desert of Barca
Desert of Borno
Desert of Zaara
Kingdom of Nubia and Abex
Kingdom of Biafara
Kingdom of Benin
Kingdom of Loango
Kingdom of Angola
Kingdom of Matamba
Kingdom of Monomotapa
Empire of the Monoemugi
Empire of Monomotapa
Empire of Abissines
Countrey of Negres
Countrey of Cafres
Countrey of Barnagasso
Countrey of Magnocotapa
Countrey of Adea
Countrey of Fatigar
Countrey of Ajan
Countrey of Adel
Countrey of Magnocotapa
Countrey of Zanfara
Countrey of Vancara
Countrey of Bornu
Countrey of Gangara
Countrey of Semegonda
Countrey of Zeguada
Countrey of Zefala
Countrey of Natalia
Countrey of Caffraria
Countrey of Hottentots
Countrey of Terra de Natal
Countrey of Terra de Boa
Countrey of Terra de Fumos
Countrey of Terra de Sofala
Countrey of Terra de Sena
Countrey of Terra de Manica
Countrey of Terra de Inhambane
Countrey of Terra de Sofala
Countrey of Terra de Sena
Countrey of Terra de Manica
Countrey of Terra de Inhambane
Countrey of Terra de Natal
Countrey of Terra de Boa
Countrey of Terra de Fumos

THE EMPIRE OF THE ABYSSINS, Or, THE Higher Æthiopia.

ABYSSIN, or the Empire of the *ABYSSINS*, is commonly called the Higher and Great *ÆTHIOPIA*; because it makes the greatest and better part of the one, and the other *Æthiopia*; and is the greatest and most considerable Estate of all *Africa*, under one name. It extends it self on this side, and beyond the *Equinoctial Line*; from the Mountains of the *Moon*, and the Springs of the *Nile*, even near unto *Egypt*; and from the Kingdoms, and Estates of *Congo*, and the *Negroes*, unto the Coasts of *Zanguebar*, *Ajan* and *Habex*. Its greatest length from South to North, is 800 Leagues. Its breadth from West to East, 4, 5 and sometimes 600, and in Circuit about 2500. Empire of the *Abissins*, its extent, length, & breadth.

Some divide this great Estate into many Kingdoms and Provinces, as are set down in the *Geopraphical Table* of the Higher *Æthiopia*; we shall observe the most known. Its parts.

BARNAGASSO signifies King of the *Sea*, because formerly all this Kingdom or Government held all the Coast of the *Red Sea*, from *Egypt* unto the Kingdom of *Dancala*; which is 250 *Leagues*; At present the *Turks* hold this Coast, where are *Suaquen*, *Mezzua*, *Arquico* which we will describe with *Zanguebar*, under the name of the Coast of *Habex*. *Barva* or *Daburova* is esteemed the chief of *Barnagasso*; after which some put *Canfila*, *Daffila*, and *Emacen*: others esteem *Canfila* and *Daffila* Provinces or Governments, and *Emacen* a City of the Government of *Daffila*, 20 *Leagues* from *Barva*; 50 from *Suaquen*. *Chaxumo* is the chief of *Tigre*; a fair City, and according to the common opinion, the Ordinary Residence of the Queen of *Sheba* or *Saba*, that came to see *Solomon*. Both the City and Quarter of *Sabain*, not far from *Chaxumo*, seem to retain the name. There are every where, here abouts, found a great many fair Churches: *Angotine* is a City in the Kingdom of *Angota*, and here they use *Salt*, or little pieces of *Iron* instead of *Money*. Kingdom of *Barnagasso* described.

The Kingdom of *AMARA* is famous, by reason of its Mountain, where the Children, and neareſt of Kinred to the *Grand Negus* are guarded: This Mountain is very high, of a great circuit, and whose approaches are very difficult, being craggy on all sides, and easie to defend; which made this use be made of it, to keep those which may cause any commotion in the Estate. The top of the Kingdom of *Amara* described.

the Mountain is formed into a great Plain, where there are fair *Buildings*, many *Cisterns*, a rich *Monastery*, &c. Some speak wonders of this Mountain, and that the *Grand Negus* being deceased, they take thence him who is the true interior, if he be capable to govern the Estate, if not the second or third, &c. in order. Others say that there are no such things as they put here, neither *Monastery*, *Library*, *Gold*, *Precious Stones*, &c.

Kingdom of *Bagamedri* with its Provinces &c. described.

BAGAMEDRI is subdivided into Provinces, like to *Tigre*; hath a greater extent, and should be better, lying along the *Nile*. The Prince resides often at *Dambea*, which is beyond the *Nile*, as well as *Damout*. Some place the Springs of the *Nile* in *Goyame*, others in *Cafates*. The one and the other Kingdom being about the Lake of *Zaire*. *Goyame* where this Lake reduces it self into a River, which is the *Nile*: *Cafates* on one of the principal Rivers of those that fall into the Lake; which apparently should be called the *Nile*. *Narea* is between the Lake of *Zaire* and *Zafflan*; which are two Lakes, from whence descend the principal Rivers which make the *Nile*.

The Air fertility, commodities, &c. of the *Abissin*.

The Air of *Abissin* is very temperate considering its situation. *Tigremahon* particularly is esteemed so, by reason of the Northern Winds which refresh it. All the Country is in Plains, except some Mountains, which are especially towards its bounds. The Soyl is generally good, fruitful in *Grains* and *Pulse*, of which, it hath excellent, not known to us; they have few *Vines*, as also few *Herbs*, the *Grasshoppers* much annoying them. The Land feeds many tame and wild *Beasts*; and much *Fowl*, among others an infinite number of *Turtles*. Their *Rivers* have *Crocodiles* and *River-Horses*, which they call *Gomaras*; it is a hardy *Fish*, and will assault men in the Water. It hath much *Metals*, as *Gold*, *Silver*, *Lead*, *Tin*; and the Mountains so full of *Sulphur*, that they may afford wherewith to make *Salt-peter* more then any Country in the World, *Tigremahon* hath *Mines* of *Gold*, *Silver*, *Iron*, *Lead*, *Copper* and *Sulphur*: *Damout* hath more *Gold*, then all the rest: *Bagamedri* and *Goyame* hath likewise *Gold*.

Its People.

The *Inhabitants* are generally black; some more, some less; they are (for the most part) of a good stature, flat nosed, woolly haired, of a nimble spirit, and very jovial: They have scarce any thing of Literature, neither do they much desire to attain to any. They *Coyn* neither *Gold* nor *Silver*, but receive it by weight. Some Authors make this Prince so rich, that there is scarce any in the World hath so much present *Gold* in his *Coffers*. *Sanutus* saith, that he once offered to the Kings of *Portugal* a Million of Drams of *Gold*, and as many men to exterminate the *Infidels*. And Queen *Helena* writing to *Emanuel* of *Portugal*, and speaking for her Grand-child *David*, saith, that if the King of *Portugal* would furnish them with 1000 Vessels of *War* and *People* fit for the *Sea*, that she would on her part, furnish them with all things necessary for the *War*, and give them 200 Millions of *Gold*; and that she had *Men*, *Gold* and *Provisions*, in such great number and plenty, as there were *Sands* in the *Sea*, or *Stars* in the *Firmament*.

Its Kings very rich and powerful.

Zaara, King of *Æthiopia*, led against *Asa*, King of *Judah*, 90000 Foot, and 10000 Horse; which are 100000 Men. *Pliny* esteems the Isle of *Meroes* alone have 250000 Men fit to bear Arms; and 400000 *Artisans*. At present, the *Grand Negus* is held able to raise a Million of Men; and *Barnagas* alone to furnish 200000 Foot, and 20000 Horse. The Prince is always in the Field, and 5 or 6000 *Tents* attending on him, where are are *Churches*, *Hospitals*, *Shops*, *Taverns*, &c. which furnished with all things necessary for himself, and his Train.

There are scarce any *Fortresses* in the Countrey, except where Mountains of themselves make them. The *Neighbors* to this Estate, are the *Turks*, who hold all the Coast of *Haber* on the *Red Sea*, the King of *Adel*, and some others, on the Coasts of *Ajan* and *Zanguebar*; the *Monomotapa*, or the *Monoemugi*, towards the Mountains of the *Moon*; the *Congo*, or some Estates neighboring on *Congo*, and the *Negroes* towards the West; some Kings of *Nubia*, towards the North. Except the *Turks*, the *Abissins* having no *Civil War*, can easily reduce the greatest part of them to reason, or at least, hinder them from molesting him.

ZAN-

ZANGUEBAR.

Zanguebar, its Coasts or Parts, and their Situation.

UNder the name of *ZANGUEBAR*, I comprehend all the Coasts of the Higher *Æthiopia*: And these Coasts are on the *Æthiopian Ocean*, and the *Red Sea* or Gulph of *Arabia*. I subdivide them into three parts, the Coast of *Zanguebar*, the Coast of *Ajan*, and the Coast of *Abex*. The Coast of *Zanguebar* extends it self from the *Cafres* to under the *Equator*, for the space of 5 or 600 Leagues: That of *Ajan* is between the *Equator* and the Streight of *Bab-el-Mandel*, likewise 600 Leagues: The Coast of *Abex* advances from that Streight to *Egypt*, and hath not above 4000 Leagues. The first part was called by the Ancients *Barbaria Regio*, the second *Azania Regio*, and the last *Trogloditica Regio*.

Zanguebar.

The particular Coast of *Zanguebar* towards the East regards some Isles, among which that of *Zanguebar*, which hath communicated its name to the Coast, and then those of *Penda* and *Monsia* are the best known. *Maffy* makes mention here of the Isle and City of *Querimba*, and *Texera* of *Anisa*; the one and the other possibly, answer to some of those which *Sanutus* calls St. *Roco* and *Monsia*, which (he saith) are four Islands, two great and two small.

Penda.

Penda and *Zanguebar* are the greatest, and according to the form *Sanutus* gives them, are each of 100 Leagues circuit, *Monsia* 50, and the others much less. All, and particularly *Zanguebar*, produceth quantity of Grains, as *Rice*, *Millet*, &c. quantity of Fruits, as *Citrons*, *Oranges*, &c. and many *Sugar Canes*, which they know not how to refine; nor want they Fountains of fresh Water. *Aniza* and *Querimba* hath *Manna*, but not so much esteemed as that of other places.

Isle and City of *Mosambique* described.

On the Coast are the Estates or Kingdoms of *Mongale*, on one of the branches of *Cuama*, *Angos* or *Angouche*, on another Branch, or on another River of the same name, *Mozambique* Isle and City on the Coast, as likewise *Quiloa* and *Mombaze*. *Melinda* is no Isle, but on the Coast: so are *Lamon*, *Pate*, &c. *Mongalo* and *Angos* are little considerable; their Inhabitants black, *Mahometans* and *Pagans*; they traffick in *Gold*, *Ivory*, *Calicoes*, and *Silk*. The Isle and City of *Mozambique* is on that Coast of *Africa* which regards the Isle of *Madagascar* towards the East, and just between the Capes of *Good Hope* and *Guardafuy*, near 1000 Leagues from the one and the other, some account is made of this City and its Fort, for the goodness and depth of its Port, though small; but of a very important retreat for the Vessels of *Portugal*, after they have passed the Cape of *Good Hope*, where oft-times the Heat, or the working or motion of the Ship distempers many Men, who refresh themselves here, there being a very good Hospital, and a Magazin always furnished with what ever is needful, to finish their Voyage to the *East Indies*; this Port serving them going to the *Indies*, as the Isle of *Sancta Helena* doth in their return. The whole Isle is not above a League and half in circuit. Its City is not so beautiful as many have believed it, but of a good Trade, wealthy and well frequented by the *Portugals*. Its Castle is good, since it hath sustained divers Assaults of the *Hollanders*. The Soil is dry, hath none, or very little Fresh-water; but the great number of Fruits, as *Cocos*, *Oranges*, *Citrons*, as others common to the *Indies*; and the quantity of Cattle, as *Oxen*, *Sheep*, *Goats*, *Hogs*, &c. which are found here, recompence these Inconveniences. Their *Figs* are long and large, being excellent and healthful. The Tree sprouts, and dies every year; it shoots forth but one Branch, where many *Figs* ripen one after another, so that they are found to continue almost all the year: the Leaves are so great, that two will cover a person of a moderate Stature: dying, it leaves a Root, which shoots forth another *Fig-Tree* the year after

Their *Swines-fleſh* is ſo healthful, that Phyſicians order it for Sick people? Their *Pullain* are good and delicate, though their *Feathers*, *Fleſh*, *Blood*, and *Bones*, are very black, and if boiled in Water as black as *Ink*. Here they are ſaid to have *Sheep*, whoſe Tails weigh about 25 pound weight.

Kingdom of *Quiloa*, its chief places, &c.

QUILOA is 150 Leagues, or little more from *Mozambique*, in a ſtrait line: and near 250 by Sea: It hath two Cites, the Old and the new; the Old on the main Land, the New in an Iſland, divided from it by a ſmall Channel: This laſt is much the faireſt; its Houſes high, magnificent, and well furniſhed; accompanied with Gardens, where they gather excellent Fruits throughout the whole year. The Kings of *Quiloa* once commanded all the Coaſt into *Mozambique* and *Sofala*; but this Eſtate hath received a great change ſince the coming of the *Portugals* into theſe quarters. Its Inhabitants are yet rich, and have a great traffick for *Gold*, which they bring from the Main Land, where there is near as much as on the Coaſt of *Sofala*; as alſo *Silver*, *Ambergreece*, *Pearls* and *Musk*: They are part black, part white; theſe coming from *Arabia*, and are *Mahometans*; the others of the Natives are partly *Idolaters*: both the one and the other go clad after the *Arab* or *Turkiſh* manner; the richeſt wearing Cloaths of *Gold* and *Silver*, *Silks*, *fine Calicoes*, and *Scarlet*, inriching the Guards of their *Swords* and *Daggers* with fair *Pearls* and *Precious Stones*, as the Women do their *Ear-Pendants* and *Bracelets*. They are very comly, of a civil behaviour, neat in their Houſes, and love to go in rich Apparel. Here the People are obſerved to uſe a ſtrange cuſtom to thoſe of the Female Sex, which is not uſed by any other Nation or People, ſave themſelves; which is that they ſow up the Privy-parts of the Female Children, only leaving a ſmall vent for the iſſuing forth of their Urine. And thus ſowed, they keep them carefully at home until they be married; and thoſe that are by their Husbands found not to have this ſign of their *perpetual Virginity*, are ſent to their Parents with all kind of ignominy, and by their Parents are as diſgracefully received. The Country, though unhealthful to the *Europeans*, ought to be eſteemed good, ſince the Inhabitants are rich, the Soil fruitful in *Grains* and *Fruits*, feeding many *Beaſts* and *Fowl*. Its Foreſts full of Game, and its Neighbouring Sea full of excellent Fiſh.

Its People.

The Iſle and City of *Mombaze*.

MOMZAMBE is 150 Leagues from *Quiloa*, ſeated on a little Hill, and an in Iſland, at the bottom of a Gulph, where great Ships may ride ſafe at Anchor. This City was formerly great, being about a League in circuit, encompaſſed with a ſtrong Wall, and fortified with a good Caſtle; well Peopled, of a good Trade; its Streets in good order, and its Houſes high, and well built with *Stone* and *Chalk*, appearing almoſt all towards the Sea. It was found out when *Vaſco de Gama* was in the *Indies*, and afterwards taken and retaken divers times by the *Portugals*, who keep a Fort by reaſon of the goodneſs of the Haven, and to maintain their trade. The Iſle of *Mombaze* is but ſmall.

The Kingdom of *Melinda* deſcribed.

MELINDA is another Kingdom, but of a ſmall extent; yet made conſiderable by the good intelligence it hath always preſerved with the *Portugals*. Since *Vaſco de Gama* paſſed there the firſt time in 1489, until this preſent, which hath ſtood it in good ſtead; the Neighbouring States having been taken, pillaged, and burned divers times. This kept entire, maintaining its Trade with the *Portugals*, and with the Eaſt: Its chief City bears the name of the Kingdom, ſeated in a fruitful and delightful Soil, yielding great plenty of *Rice*, *Millet*, *Fleſh*; good ſtore of Fruits, as *Lemmons*, *Citrons*, *Oranges*, &c. But not well furniſhed with *Corn*, the greateſt part whereof is brought out of *Cambaya*, a Province in *India*. This City is fair, well Walled, and the Houſes built after the *Mooriſh* manner, with many Windows and Terraſſes. The Inhabitants on the Sea Coaſts are of the *Arabian* breed, and of the ſame Religion. Thoſe of the Inlands, which are the Original Natives, are for the moſt part *Heathens*, and of an *Olive colour*, but inclining to *white*; and their *Women* of a very *white Complexion*, as in other places. They are ſaid to be more civil in their Habit, Courſe of life, and entertainment in their Houſes,

Its People.

Houſes, than the reſt of this Country; and great Friends to the *Portugals*, who return the like kind uſage to them. This Kingdom of *Melinda* is not diſtant from *Mombaza* above 30 Leagues by Land, and 60 by Sea; whoſe People are of the ſame nature and diſpoſition with thoſe of *Melinda*.

Eſtates of *Lamon*, *Pate*, and *Chelicia*.

The Eſtates of *LAMON*, *PATE*, and *CHELICIA*, and likewiſe ſome others, are under the Government of *Melinda*. *Panebaxira*, King of *Lamon*, and Brother to the King of *Chelicia*, ſurprized in 1589 *Roch Brito*, Governour of *Melinda*, and ſome other *Portugals*, whom they ſold to the *Turks*. The Admiral *Thomas Souſa Cotinho* aſſaulted them, took, and cut off the Head of the King of *Lamon*, quartered the others, and hung them up in divers places to ſerve for example. Theſe Kings are almoſt all *Mahometans*; yet here are found ſome few *Chriſtians* which inhabit among them.

We have obſerved on the Coaſt of *Zanguebar* but five or ſix different Eſtates or Kingdoms; there are ſome others, but of leſſer note, and all Tributary, or in good Intelligence, and trading with the *Portugals*.

The Coaſt of *Ajan* deſcribed.

The Coaſt of *AJAN* contains the Republick of *BRAVA*, which *Sanutus* calls *Barraboa*; then the Kingdoms of *MAGADOXA*, *ADEA*, and *ADELL*: ſome of their People on the Coaſt are White. *BRAVA* is well built, an indifferent Mart; rich, and pays Tribute to the *Portugals*. It is the only Republick at preſent in *Africa*, being governed by 12 Counceſſors or Stateſmen. *MAGADOXA* is its chief City, and hath ſometimes been ſo powerful, that it ruled over all this Coaſt; it is ſcituate in a delightful and fruitful Soil, and neighboured by a ſafe and large Haven, which is much frequented by the *Portugals*, and is very rich, affording *Gold*, *Hony*, *Wax*, and above all *Abyſſin* Slaves, which by the *Portugals* are held in great value; for which they bring them in exchange the *Silks*, *Spices*, *Drugs*, &c. of *India*.

Its People.

ADEA extends it ſelf but little towards the Sea: The Country is fertil in Grains, as *Wheat*, *Barley*, *Rice*, &c. It is well ſhaded with Woods and large Forreſts, which are plentifully furniſhed both with Fruits and Cattle, beſides a great increaſe of *Horſes*. The Inhabitants are of the *Mahometan* Religion, and follow the *Arabians* in many of their Cuſtoms, from whom they were deſcended, keeping much of their Language, and in their Habit naked, ſave only from the middle downwards. Of Complexion, for the moſt part of an *Olive colour*, and well proportioned; not very expert in Arms, except in poyſoned Arrows. Its other chief places are *Barraboa* and *Quilmanca*, ſeated on the Sea, which is called the Coaſt of *Ajan*, as is *Magadoxa*.

ADELL within theſe few years is become the moſt powerful of all theſe Kingdoms: Its Eſtates extending both on the *Arabian* Gulph or *Red Sea*, and on the Great *Ocean*, ſtretching 200 Leagues on each ſide; Cape *Guardafuy* ending both the one and the other towards the Eaſt, regards in the Sea the Iſle of *Zocotora*, famous for the quantity and goodneſs of the *Aloes* here gathered, which they call *Zocotorin*; about which are ſeveral other Iſles, but not ſo conſiderable, being ſmall, and many not inhabited. The *Arab* of *Nubia* would make us believe, that *Alexander* the Great was in this Iſland, drove thence the Inhabitants, and planted *Greeks* the better to manage the *Aloes*, which *Ariſtotle* had ſo much prized to him. Its chief City takes its name from the Kingdom; its others places of moſt note are, 1. *Zeila*, of old, *Avalis*, and its Gulph *Avalatis Sinus*, is one of the beſt places of the Kingdom of *Adell*, though about the City there wants Water; yet the Country farther off furniſhes *Wheat*, *Barley*, *Millet*, *Oil* of *Seſamum*, *Honey*, *Wax*, *Fruits*, *Gold*, *Ivory*, and *Incenſe*. They ſell to the *Turks* and *Arabs* abundance of *Abyſſin* Slaves, which they take in War; and in exchange receive *Arms*, *Horſes*, &c. This *Zeila* is a noted Port Town, well frequented with Merchants, by reaſon of the variety of good Commodities that it yields. Once of great beauty and eſteem, till in the year 1516 it was ſacked and burned by the *Portugals*; before which it was eſteemed the moſt remarkable Empire of all *Æthiopia* for the *Indian* Trade. 2. *Barbora*, and 3. *Meta*, are two of the moſt noted Sea-Port Towns in all *Adell*, both under the *Turks* Juriſdiction. The firſt is ſeated on the ſame Sea Coaſt, as *Zeila* is, well frequented

by Merchants, nigh to a lofty Promontory, which they call Mount *Fellex*: And the laſt is ſeated near the Cape of *Guardafuy*. The People inhabiting on the Sea Coaſts are deſcended from the *Arabs*, and of the *Mahometan* Religion; but thoſe towards the Inland Countries, of the old *Æthiopick* Race, and wholly *Gentiles*.

The Coaſt of *Abex*, with its chief places and Iſles.

The Coaſt of *ABEX* hath for its principal places, *Aquico*, of old *Magnum Littus*, *Maczuma* Iſle, *Macaria Inſula*, and *Suaquem Ptolomais Ferarum*. The *Turk* hath a *Baſſa* at *Suaquem*, and ſome ſay another at *Maczuma* or *Aquico*. *Suaquem* is in the midſt of the Coaſt of *Africa*, which lies on the *Red Sea* or *Arabian* Gulph, diſtant from *Sues* in *Egypt*, which ends this Gulph, 250 and odd Leagues; and from *Babel-Mandel*, which begins it, 260, or little more: So the Authority of this *Baſſa* extends almoſt quite over this Sea. The Iſle of *Maczuma* hath good Paſtures, feeds much Cattle: *Aquico* is almoſt oppoſite to *Maczuma*, and both have commodious Havens. Its other chief places are, *Canſila*, *Daffila*, *Emacen*, *Barba*, *Zama*, *Corberia*, and *Carna*. About this Coaſt of *Abex* are ſeveral other Iſles, as *Bahia de Cabras*, *Suaquem*, *Mire*, *Meger*, *Ballaccia*, *Maczua*, *St. Peitre*, with ſeveral others not worth the naming.

All this Coaſt of *Abex* hath been under the Government of *Bernagaſſo* in *Abyſſin*, and belonged not to the *Turk* till within this hundred years. A Country dry, untilled, but of ſome Trade: the People fierce, retaining much of their ancient Barbariſm. They Fiſh *Coral* near the Iſle of *Suaquem* and *Aquico*; they frequently paſs from *Suaquem* to *Ziden*, in *Arabia*, which ſerves for a Port to *Mecca*, and is about 100 Leagues over. This is the Traject which the *Arab* of *Nubia* deſcribes between *Adhab* and *Giodda*, which anſwer to *Suaquem* and *Ziden*.

The

The Empire of the ABYSSINS; or the LOWER ÆTHIOPIA; with its Empires, Kingdoms, Land, &c. which may be divided into (or comprehended under) three Parts, or Heads; and then,

The First ſhall contain: The Kingdom of CONGO, with its Kingdoms or Provinces of

- LOANGA, — Loango, Sette, Majumba, Quanvi, Quilongo, Sellaga, Kaye, Katte.
- PANGO, — Pango, Cundi Funquenes, Angote, Chicaco de Lula.
- SUNDA, — Sunda, Betequa, Quincaſſo.
- SONGO, — Sonho, Bommo, Matinga, Caſcais, Melemba, Calinde, Palmarinho, Mombalas, Quivala.
- BAMBA, — Bamba, Muſſula, Leogo, Lunda St. Pavo, Fore Mols, Motole, Bengo, Azele.
- PEMBA, — St. Salvador, Pemba, Tinda, Simba, Lemba.
- BATTA, — Batta, Agilimba, Gongou.
- ANGOLA, — Engaze, Maſſirgan, Benguela, Quicongo, Manikimſombo, Manikilondo, Gunze, Mapongo, Embacca.
- GIAQUES, — Zaire, Dagar, Eliſſe.
- MALEMBA, — Meti, Debran.

The Second ſhall contain:

The Empire of MONOMOTAPA, with its Kingdoms or Parts of

- BUTUA, — Batua, Carnia, Zer, Dobdel, Adgeſa, Caburas, Baſar, Quiricui, Degme, Hagala, Giera, Amara, Madgaſi, Bera, Almera, Gallita.
- MONOMOTAPA, particularly ſo called, — Monomotapa, Zabi, Tiaſſo, Zimbro, Iboibs, Garma, Moſita, Dighi Magni.

The Empire of MONOEMUGI, wherein are ſome Kingdoms, whoſe chief places are — Ange, Aragoa, Levna, Camur, Beif, Bagametro, Zembre.

The Third ſhall contain: The Land and Coaſt of CAFRES, which encompaſſeth the Empire of MONOMOTAPA, with its Parts of

- MATAMAN, — Angra dos Negros, Cabo Negro, Doiſeu portus.
- Coaſt of CAFRES, particularly ſo called, — Cape St. Anthony, Cape St. Lucia, St. Martins-Bay, Cape of Good Hope, Caracalis Portus, Piſcarius Portus, St. Nicholai.
- CHICANGA, — Zimbaos.
- QUITEVA, — Deie, Cusma.
- ZEFALAN, — Zefalan.

THE

THE EMPIRE OF THE ABYSSINS, Or, THE Lower Æthiopia.

The Lower *Æthiopia*, and the Power and Riches of its Emperours.

THE Empire of the *ABYSSINS*, *Heylin* makes to be the Dominions or Empire of *Prester John*, and saith, That he is of such great force, that he is able to bring into the Field upon a sudden occasion, a Million of Fighting Men; and of his Wealth and Riches many speak wonders, some saying he is able to purchase half of all the World, if it were to be sold: Others make it not so great, but say, that besides his necessary expences in the management of State Affairs; the payment of his Army, the pomp in his Court, &c. he lays up yearly in his Treasury Three Millions of Crowns. But without doubt his Revenue and Force is great; for it is said, That he himself proffered the *Portugals* a Million of Money, and another of Men, if they would employ them in a War against the *Infidels*.

The Government of this Emperour is absolutely Tyrannical, the People being used more like Slaves than Subjects, treating them as he pleases, as well to their lives as Estates; giving Honours to whom he pleases, which upon any slight occasion he taketh away again. He is held in such great reverence among all his Subjects, as well Rich as Poor, that at his name they bow their Bodies, and touch the ground with one of their fingers; and reverence his Pavilion as they pass by it, though he is not in it. And to keep up this Reverence, which he holds due to him, he seldom shews himself to his Subjects, and then not without his *Crown* on his head, a *Silver Crucifix* in his hand, and his Face covered with a Veil of *Taffety*, which according as he is pleased to grace the person he talketh with, he lifteth up and putteth down, to shew him his Face.

His Titles.

The Title of this Great and Mighty Emperour, I shall borrow from *Heylin*, who thus hath it: *N. N. Supream of his Kingdoms, and the beloved of God; the Pillar of Faith; sprung from the Stock of* Judah; *the Son of* David, *the Son of* Solomon, *the Son of the Colomn of* Sion, *the Son of the Seed of* Jacob, *the Son of the Hand of* Mary, *the Son of* Nahu, *after the Flesh; the Son of* St. Peter *and* Paul, *after the Spirit: Emperour of the Higher and Lower* Æthiopia, *and of the most Mighty Kingdoms, Dominions, and Countries of* Xoa, Goa, Caffares, Fatigar, Angotæ, Baligmazo, Adea, Vangne, Goyame, *where*

where the Fountains of Nile, Amara, Banguamedron, Ambea, Vagucum, Tigremean, Sabaim, *the Birth-place of the Queen of* Sheba; Bernagassum; *and Lord of all the Regions unto the confines of* Egypt.

They profess the *Christian Religion*, which was first made known unto them by the Eunuch of Queen *Candace*, who was baptized by *Philip* the *Evangelist*, and more generally received by the Preaching of St. *Matthew* the Apostle. Since which they have much swerved from the purity of the true Religion, by their many corrupt Opinions which are crept in amongst them; as they use Circumcision both to their *Males* and *Females*, when they are Children; and they Baptize their *Males* 40 days, and their *Females* 80 days after Circumcision: That Infants dying unbaptized, are sanctified by the Womb, by vertue of the *Eucharist* which the Mother receives after her Conception: They administer the *Eucharist* to Infants, presently after they are Baptized. They Baptize themselves in *Ponds* and *Lakes* every *Epiphany-day*, as supposing that to be the day that *John* Baptized *Christ* in *Jordan*. They hold, that the reasonable Soul of Man is derived from their *First Parents* by Seminal Propagation. They acknowledge but one Nature, and one Will in *Christ*. After the receiving of the Sacrament, they hold it unfitting to Spit until Sun-set. Those *Beasts* which in the *Old Law* are held unclean, are so esteemed with them. They keep their *Sabbath-day* on *Saturdays*: they allow their *Priests* no yearly means or stipends, neither do they suffer them to beg; but they are forced to get their livelyhoods by the sweat of their brows, and labour of their hands. They accept only of the three first *General Councils*. They have moreover a Book, which is writ in eight Volumes (and as they say) by the Apostles assembled at *Jerusalem* for that purpose, the Contents thereof they most strictly keep.

Their Religion.

We have divided *ÆTHIOPIA* into the Higher and Lower; esteemed the Higher, that which is towards the North and the East; the Lower, that which is towards the South and West. We have succinctly discoursed of the Parts of the Higher, proceed we now to the Lower.

This Lower *ÆTHIOPIA* extends it self from the River of the *Camarones*, where the bottom of the Gulph of St. *Thomas* is, and so turning about the Capes of *Negro*, *Bona Esperanza*, and *Des Carientes*, into the River of *Cuama*; which bounds it from *Zanguebar*, part of the Higher *Æthiopia*, as the other doth from the Kingdom of *Benim*, part of *Guiny*, which is in *Libya Interior*. We have likewise subdivided this Lower *Æthiopia* into three parts, *viz.* into *Congo*, *Monomotapa*, and the Country of the *Cafres*. We may yet subdivide these three Parts, each into two others, which will make six. The first shall be what is between *Guiny* and *Congo*; the second, *Monomotapa* and *Mono-Emugi*; and the last, the Land of *Cafres* on this side, and Westward; and the Land of *Cafres* beyond, and Eastward of the Cape of *Good Hope*. Between *Guiny* and the Kingdom of *Congo* there are divers Kingdoms, and divers People: The *Ambosins* and *Camarones* are on the Sea; then the Kingdoms of the *Capones*, the Country of *Angra*, the three Kingdoms of *Cacombo*, *Gabom*, and *Pongo*; of which this last is most powerful. Among these Estates are the Capes of *Lopo Gonsalves*; up in the Land are the Kingdoms of *Biafra*, *Medra*, *Dauma*, &c.

Lower *Æthiopia*, its extent and bounds.

Its division and parts.

The Land of *AMBOSINS* and *CAMARONES*, are near the River of *Camarones*; a Country very fertil. The Lands of *Capones* and *Angra* are pleasant, because of the many fresh Streams which water them. The first are poor, the *Capones* are malicious, those of *Angra* addicted to Arms. The Estates or Kingdoms which are about the Cape of *Gonsalves*, have their People of the same Tongue, the same Religion (who are Idolaters,) and the same Manners; and their Kings and Lords are in peace, and in good intelligence with one another: Those nearest the Sea are the most courteous and civil, by reason of the confluence of Strangers; and when they trade with those of *Europe*, they white their Faces with Chalk; their beautiful Garments are made of *Mats*, tissued with the Rind of certain Trees, and properly accommodated. Those of *Biafra* more advanced in Land, are very barbarous,

Its People.

addicting

addicting themselves to *Witchcrafts*, and sometimes sacrificing their Children to Devils. Those of *Medra*, *Dauma*, and some others further off, are almost quite unknown, and possibly not worth regard. The *Portugals* traded here alone a long time, and possessed several Parts on this Coast: within few years the *Hollanders* have taken divers places from them, some of which they have since retaken.

The Kingdom of CONGO.

Kingdom of *Congo*, with its Parts or Kingdoms described.

BEyond the *Equinoctial Line* and unto Cape *Negro*, lies the Kingdom of *CONGO*, under the name of which we comprehend many others, which have been Subjects, Tributaries, or Allies to the King of *Congo*; as are the Kingdoms of *Loanga* and the *Anziquaines*, to the North; of *Cacongo*, and the People *Gallas* or *Giaquas*, to the East; of *Angola*, *Malemba*, *Matamman*, and others, to the South.

Kingdom of *Loango* described.

The Kingdom of *LOANGA* hath its principal City of the same name; others say, *Banza Loango*, or simply *Banza*; it is seated on the Sea, as is *Quilongo*, *Quanvi*, and *Majumba*. It comprehends six Provinces, and is throughout indifferent fertil in Grains; affords excellent Fruits, Wine of *Palms*; breeds many Cattle, and all things necessary for life is found here; it is well stored with *Elephants*, having more than any other Country in these parts; they have quantity of *Ivory*, but have neither *Gold* nor *Silver*. The Country is very hot, by reason of its lying under the Line; but indifferent healthful and well peopled. Their King once subject, writes himself now but *Ally* to the King of *Congo*, and is called *Mani-Loango*, and the Governours of the six Provinces, likewise *Mani*, that is, *Lord* of such or such a Province. Their Subjects are all *Bramas*, who by Religion are *Heathens*.

Kingdom of *Congo*, and its Provinces.

The Kingdom of *CONGO* may be said to be the fairest of the Lower *Æthiopia*, though those of the *Monomotapa*, and *Mono-Emugi*, have more extent, yet hath he alwaies been esteemed the most Polite; hath had all his neighbours Subjects, and the most part yet his Allies. It may have in length 200 Leagues, and about 120 on the Coast. It is subdivided into six great Provinces, to wit, *Bamba*, *Songo*, *Sunda*, *Pango*, *Batta*, and *Pemba*: which together hath 30 or 40000 little Towns.

Songo, *Sunda* and *Pango* lies upon, and mounting from the Sea up the River *Zaire*. *Bamba*, *Pemba* and *Batta* are towards the River of *Coanza*, and the Lake of *Aquilonda*; these three last making the most Southern parts, the three other the most Northern of the Kingdom: and all take their names from the principal places where the Governours of the Provinces reside.

Bamba. The Country of *BAMBA* is well stored with *Beasts* and *Birds*, both tame and wild; well watered with Rivers, hath Mines of *Silver*, and its People exceeding strong. Its chief places are, *Bamba*, on the River *Loze*; *Motole*, on the River *Dorati*; *Bengo*, also *Pavo*, *Lengo*, and *Mussulo*, on the Sea.

Songo. *SONGO* lies on both sides the River *Zaire*, which sends forth many turbulent Streams, and hath so many Islands that one part of it hath very little to do with the other; its chief places are *Sonho*, nigh to *Cape de Pedro*, and on a branch of the *Zaire*; also *Bommo*, *Matinga*, *Cabinde*, *Malemba*, and *Cascais*, which three last are on the Sea.

Sunda. *SUNDA* is indifferent fertil, hath several rich Mines of Metals, among the rest the Inhabitants set the greatest esteem upon *Iron*, by reason that of it they make their Materials for War; it is parted by the *Zaire*. This Country furnishes forreign Merchants with several rich *Furs*, as *Sables*, *Martrons*, &c. Its several chief places are, *Sunda*, *Betequa*, *Iri*, and *Quincasso*.

Pango. *PANGO* is but barren, its Inhabitants barbarous, but strong in Arms: Its chief places are *Pango*, *Cundi-Funquenes*, and *Angote*; and this Country is watered with the River *Zaire*.

BATTA

Batta. *BATTA* is also of a barren Soil, and its People also barbarous, but indifferent well skill'd in Arms; and that being forced to it rather to defend themselves, than to offend others. Its chief places are *Batta*, *Agasymba*, and *Gongou*.

Pemba. *PEMBA* is held to be the richest and pleasantest Province of all *Congo*, being very fertil in *Grains*, *Fruits*, &c. hath good Water; the Air is healthful; the Inhabitants, since the *Portugals* sat footing there, are become very civil, imitating them both in Behaviour and Apparel. Its chief City called *Banza*, that is, the Court, and which the *Portugals* call St. *Salvador*, is the residence of the King, seated on an eminence, which discovers the Country on all sides. This situation together with its being in the middle of the Estate, gives it a great advantage; some esteem it to have 10000 Inhabitants, others 100000: possibly those understand 10000 Families, and those 100000 Souls; for the King being powerful, and his Court always great, there cannot but be multitudes. The Isle and City of *Loanda*, on the Coast of *Bamba*, were not long since in the hands of the *Portugals*; now the *East India* Company of the *United Provinces* have seized it. Its other chief places are *Simba*, *Pemba*, on the River *Danda*, *Lemba* and *Tinda*.

Its chief places.

The chief Rivers of *Congo*.

The most famous Rivers of this Kingdom are the *Zaire*, the *Lelunda*, the *Danda*, and the *Coanza*; the three last descend from the Lake of *Aquilonda*; the *Zaire* from the Lake of *Zaire*, from whence descends likewise the *Nile*; the *Zaire* hath 400 Leagues course, is very rapid, by reason of the many Cataracts or great falls which it hath from the Mountains; at its entrance into the Estates of *Congo* it enlarges it self much, embraces quantity of Islands, and at its Mouth hath no less than 8 or 10 Leagues breadth, yet presses its Waters 15 or 20 Leagues farther into the Sea, and that with so great a violence, that its Waters retain their natural sweetness, without being corrupted or intermingled with the Salt-waters of the Sea. The Rivers *Danda* and *Coanza* are Navigable, and receive great Ships. The Isle of *Loanda* is near the Mouth of the last: It is observed, that when the Sea is high the Springs of Running-water are fresh, and when the Sea falls they become salt.

Its People.

The *Congolans* are naturally very sweet and easie, able and strong, but dull and idle: they will not take the pains to tame Beasts for service, nor to employ their fine Stones in Buildings, nor make their Birds of Prey for Hawking; yet make they curious *Cloths*, *Velvets*, *Damasks*, *Brocats*, &c. They have no harmony in their Instruments of Musick, but a confused mixture of many cords or strings and many Voices content them; their Money is of *grey shells*, taken on the Coast of the Province of *Bamba*, and these Shells (especially the Females) are much esteemed, even in other Kingdoms, and almost through all *Æthiopia*.

Its Fertility.

Their *Grains*, *Fruits*, *Waters*, *Fowl*, Sea and River *Fish* are excellent. They have store of *Elephants*, Mines of *Silver*, *Iron*, *Chrystal*, *Marble*, *Jaspar*, *Porphyre*, &c. They know not their Histories but by the Reigns of their Kings, and without specifying the time, for they have no Letters, much less Learning; and hereupon some would make us believe, that *Emanuel* of *Portugal* having sent a famous Ambassador into *Congo* with many Presents, among others three fair Books excellently bound, and which contained the *Cannons*, the *Laws Imperial*, the *Ordinances*, *Civil Right*, the *Infortiate*, the *Rubricks*, &c. and with these Books, many Doctors of Law to teach the knowledge of them; and when the King of *Congo* did understand the subject that these fair Books contained, and knew the profession of the Doctors, he was so surprized that he remained sometime silent; but in the end he caused these Books to be burned, saying, *That he feared they would overthrow the very foundation of his Estate; and that he contented himself to judge according to reason, and need no other Interpreter than Common sense*; but withal protesting, *that he would remain a good and intire Friend to* Emanuel *King of Portugal*; and so sent back his Doctors. The Author of the Essay of the *Wonders of Nature* applies this story to the King of the *Abyssins*: It is much at one; let us return to *Congo*.

They say, that the Province of *Bamba* can furnish at a need 400000 strong and Warlike men; the other Provinces are no less, nor possibly worse peopled than this, but less addicted to Arms. This being esteemed the Bulwark of the Kingdom, affected to the service of their Prince, and so strong, that at one blow of a Sword they can strike off an *Oxes head*, or cut a Slave in two. Their *Elephants* are so great, that some of their Teeth are found to weigh 200 *l.* and they make such esteem of their Tails when they are old, that sometimes they exchange three Slaves for one Tail. They make of them divers Ornaments and Cords for their Instruments of Musick. The Kingdom falls only to the Males, and in default of Legitimates to Bastards: to shun all process, all Riches belong to the King, who disposes of them to whom he pleases, keeping to himself a certain Revenue. Christianity hath been introduced about 150 years ago, but not without much difficulty in its beginning.

Estate of *Cacongo*.

East of *Congo*, and South of *Anziquaines*, is the Estate of *CACONGO*; and South of *Cacongo* are the *Giaques* or *Jaggas*, which the *Abyssins* call *Gallas*, and others *Imbagolas*. These People are Vagabonds, Cruel, Men-eaters, like to the *Anziquaines* and *Moceveies*, living only on what they steal from their Neighbours. The great *Jagge* dispose absolutely, both of their *Idolatry* and their *War*.

Kingdom of *Angola*.

The Kingdom of *ANGOLA*, once *Abonda*, is between *Congo* on the North, *Mataman* on the South, *Malemba* on the East, and the Sea on the West. This Kingdom hath 100 Leagues of Coast, to wit, from the 10*th* unto the 4*th* degree of *Meridional Latitude*; and that which continues unto *Cape Negro*, and belongs to divers Lords, tributary to it. The principal City of the Country is *Engaze*, and likewise *Dongo*, which Modern Authors place at the meeting of many Rivers: It is 75 or 80 Leagues from the Sea. The Mountains of *Cambamba*, rich in Mines of *Silver*, are in this Country, which the *Portugals* cause to be laboured. Its other chief places are *Massirgan*, on the River *Coanza*; *Benguela*, seated on the Sea, on the Bay of *Thora*; and *Quicongo*, a Sea-Port Town.

Its Trade.

Through the whole Country there is a great traffick for *Slaves*, 20 or 25000 yearly being transported from the Port of *Loanda*. There are such multitudes in this Kingdom, that the *Grand Soba* (as they say) can in a moment raise 100000 Men; and that in *Anno* 1584, he raised 1200000. In *Anno* 1585, 600000. Yet these last were put to flight by 200 *Portugals* at the head of 10000 *Æthiopians*. The first by 150 *Portugals* at the head of 8 or 10000 *Congolans*, which may make us judge of the goodness of their Militia.

The Kingdom is divided into *Provinces* or *Mirindes*, which have each their *Sobas*, which a 100 years ago, or little more, were only Governours for the Kings of *Congo*, now subject all to the Great *Soba* of *Angola*, who makes only some Present to the King of *Congo*. Its People use the same *Tongue*, *Mony*, and *Arms*, with those of *Congo*.

The Empire of the MONO-MOTAPA.

The Empire of the *Mono-Motapa*, its extent, state, and power of their Kings.

THE *MONO-MOTAPA*, that is, the *Emperour*, *King*, or *Sovereign* of *Motapa*, is (according to *Vincent Blanc*) called by his People *Tabaqui*, and possesses an Empire so great, that it is made of 1000 Leagues circuit: It is said by him, that this Prince deports himself with gravity, and that there is no access to his person but with very great submissions: That he is always adorned with *Chains* and *Precious Stones*, like to a Woman, or rather like a Spouse: Is pleased to receive Presents, but gives little; keeps a great *Seraglio* of Women, which it is forbid to approach; and one part of his Guard (according to some) is likewise composed of *Women*, who are active at their Arms, and couragious. He calls his principal City *Madrogan* (which is the *Mono-Motapa* of others) where his Royal Palace is, which is magnificent and great, flanked with *Towers* without, with four principal Gates; within hung with

with Tapestries of *Cotton* mixed with *Gold* and adorned with many rich and stately Moveables. This Prince is always clothed after the manner of his Predecessors, nor may he change any thing, except the Ornaments of his Neck and Buskins. He wears no Forrein Stuffs for fear of *Poyson* and *Witchcraft*; his Drink is Wine of *Palm* distilled with *Manna*, *Amber*, and *Musk*. He spends much in *Odours* and *Perfumes*, making them be mixed in those Lights which are carried before him, and which serves where he is. His Court hath a great many Officers, which serve with order and silence; besides which, they are thronged with People. His Officers are easily known, because they carry the *Talmassara* on their Shoulder, more or less enriched, according to their condition or degree of place; but all in the same fashion with the Kings. The Inhabitants are all black, of a mean stature, active, and such good Foot-men, that they are said to out-run Horses: They are couragious, addicted to Arms, as also to Trade. The Commonalty cover themselves but below the Waist, for which their Apparel is made of *Skins* of Beasts, *Cotton*, *Cloth*, or the like; but the better sort have *Cloths* and *Stuffs*, which are brought them from the *Indies*: The *Maids* cover nothing of their Body till they are married. Their Houses are of *Wood*, or *Earth* whited, fashioned like a *Clock*, or rather like a *Bell*. Those of the greatest Lords are the highest. They have as many *Wives* as they please; but she who is the first espoused is always the chief, and her Children alone inherit the Fathers Goods and Estate. The *Women* are here used very respectfully, none offering so much as to take the Wall of them. The *Maids* are here not thought fit to be married, till their *Menstrua* or *Natural Purgations* shews their ability for Conception, which makes them solemnize with a great Feast their first *Flux*. They have no *Prison* in all the Country, but all Affairs are determined and ended on the place, so soon as they are convicted of the fact or crime; but above all Offenders, those for *Theft*, *Adultery*, and *Witchcraft*, are the most severely treated. And this sudden execution of Criminals, makes the King to be reverenced by his Subjects. *Christianity* found here some difficulties at the beginning; at present it is established by the consent of the King, who hath likewise permitted the *Portugals* to work the Mines of *Gold* and *Silver*, which in this Country are in great quantity, and so rich, that there are some who call this Prince, *The Emperour of Gold*. Not only the Mines, but likewise the Rivers have *Gold* in their Sand: among which, those of *Dos Infantos*, of the *Holy Ghost*, and of *Cuama*, towards their Springs, which are towards the Lake *Zachaf*; but those of the Country care for no more of it, than is necessary to truck for what they have need of.

His Habit, &c.

Its Inhabitants

The *Woods* have great store of *Elephants*, which yields them *Ivory*; as also other Beasts. Hath rich *Pastures*, which are well furnished with *Cattle*, hath *Grains*, *Fruits*, *Fowl*, is well watered with many *Rivers*, in which are abundance of *Fish*. The *Air* is temperate, except that their Winter is colder than may be expected in that Climate, by reason of the Mountains which enclose it on all sides, and cross the Country: And their Winter is in the same time when we have our Summer, to wit, when the *Sun* is about the *Tropick* of *Cancer*.

Its Fertility.

The *Mono-Motapa* is said to be one of the most powerful Princes of *Africa*, if we consider the greatness of his Estate, his Riches, and the great number of Princes which hold of him, or are under his Dominion. They yearly receive the Fire which the *Mono-Motapa* sends them, or upon refusal are accounted Rebels. But all these People, though hardy and addicted to Arms, are unexpert in them: so that their Number would do them little good, if assaulted by the *Europeans*. They believe only in one God, and punish with death *Idolaters* and *Sorcerers*.

The power of the King.

But a word or two of the chief places of this Empire, and first of the Kingdom or Province of *BUTUA*, whose chief places are *Butua*, *Carnha*, *Gallita*, *Zet*, seated on the Lake *Zachaf*; *Dobdel*, *Calkuras*, *Tialfo*, and *Zimbra*, both under the *Tropick* of *Capricorn*; *Bafat*, *Quiticui*, *Armeta*, *Maitagasi*, *Boro*, *Amara*, *Giera*, and *Hagala*; most of which are Cities of some account, and seated on Rivers.

The chief places in the Empire of the *Mono-Motapa*.

The chief places in *MONO-MOTAPA*, particularly so called, are *Mono-Motapa*, the chief of the Empire; *Zuggi*, *Jouros*, and *Mosata*. The chief in *ZEFALA* bears the same name, seated in an *Isthmus* so called. The chief in *QUITEVA* is *Cuama*, seated on the River so named. About the Shoar of *Zefala* are several Isles, among which three bear the name of *UCIQUE PARVÆ*; three of *UCIQUE MAJORES*; and two of *SPICHELLÆ*; and farther, a *Sea*; and towards the Isle of *Madagascar* is the Isle of *BAIXOS DE INDIA*. The chief place of *SEDANDA* is so called: And the chief places of *CHICANGA* are, *Zimbaos* and *Buro*. And these are the Parts comprehended under the Empire of the *Mono-Motapa*.

The Empire of the *Mono-Emugi*.

The *Mono-Emugi*, that is, *Lord of Emugi*, hath his Empire or Estates between the *Abyssins*, the *Cafres*, the *Mono-Motapa*, and the *Zanguebar*; so that it is about the Mountains of the *Moon*. The *Giaques* or *Zaggas*, which joyn to *Congo*, are likewise esteemed subject to this Empire: He hath often War with the *Mono-Motapa*, of which he seems once to have been a part, is in peace with the King of *Zanguebar*, that he may have commerce to the Sea, for he hath much *Gold*, *Silver*, *Ivory*, and the same Commodities as *Mono-Motapa*; but its People are more barbarous and brutish. The chief places in the *Mono-Emugi* are, *Agag*, *Astagoa*, *Leuma*, *Gamur*, *Beif*, *Bagametro*, and *Zembre*, seated on the bottom of the Lake *Zaire*.

CAFRERIA, *or the Land of* CAFRES.

The Land of *Cafreria* described.

CAFRERIA, or the Land of *CAFRES*, makes the most Southern Coast of all *Æthiopia*, winding like a Semicircle about the *Cape of Good Hope*; some begin it from *Cape Negro*, and continue it unto the River of *Cuama*: this separating it from *Zanguebar*, and the other from *Congo*, or what we have esteemed with *Congo*. Others begin it and end it with the *Tropick* of *Capricorn*, as well on this side as beyond the *Cape of Good Hope*. I esteem under the name of *Cafres* all the Coasts which environ the *Mono-Motapa*, both towards the West, South, and East: so that we may call these *Cafres*, *Occidental*, *Meridional*, and *Oriental*. This distinction being taken in regard of the natural scituation in which these People are from the *Mono-Motapa*; or we may chuse rather to consider them in *Occidental* or *Oriental*, as we have already done; the *Cape of Good Hope* then keeping the one from the other. It hath formerly been believed, that these People had neither *Kings*, *Law*, nor *Faith*, and therefore were called *Cafres*, that is, *without Law*. But it hath since been known, that they have divers *Kings* and *Lords*; as those of *Mataman*, where there are divers *Metals*, *Chrystal*, &c. And of *Melemba*, among the *Occidentals*; those of *Chicanga*, *Sedanda*, *Quiteva*, and *Zefala*, among the *Orientals*; and others we know not, towards the South and *Cape of Good Hope*.

On the Coast of *Cafres* are these places and Isles, *viz. St. Nicolai*, *Piscarius*, the Port of *Carascalu*, the *Cape of Good Hope*, St. *Martins Bay*, and the *Cape of St. Lucia*. Also these Isles, 4 bearing the name of *St. Lucia*, 2 of *St. Christophers*, 5 of *Crucis*, and 3 of *Aride*. Many of which, as likewise the *Capes*, are well known by Sea-men, especially the *Cape of Good Hope*. All these Coasts of *Cafreria* are bounded within Land by a Chain of Mountains, formed by the Mountains of the *Moon*, and which include *Mono-Motapa*. That part of these Mountains which advance towards the *Cape of Good Hope*, are called by the *Portugals*, *Picos Fragos*, that is, *Watry Points* or *Rocks*. This *Cape* is the most remarkable piece in *Cafreria*; the most Southern point of *Africa*, and of our Continent; and the most famous *Promontory* of the whole World. *Vasco de Gama* knew it in 1498, and after having doubled it, found the way by the *East-Indies* to the *Great Sea*; and from hence the *Portugals* boast to have been the first that had the knowledge of this Cape. But we have made appear in the general discourse of *Africa*, that the Ancients have both known and spoke of it. Near the *Cape of Good Hope*, and farther towards the South, is the

The *Cape of Good Hope*.

the *Cape of Needles*, which should be more famous, since it is more Southernly than the other by 12 or 15 Leagues: But the name, *Cape of Good Hope*, is given to all that Head of Land which is the most Southern of *Africa*.

The Air, Fertility, Commodities, &c. of the Country.

The *Air* of this Country is sometimes temperate, and sometimes cold, by reason of the Mountains which are covered with *Snow* and *Ice*, from whence descends quantity of cold Waters. The *Vallies* and *Lower Countries* pleasant and fertil; hath store of *Woods* and *Forests*, in which are abundance of *Beasts* and *Fowls*, as *Deer*, *Antilopes*, *Baboons*, *Foxes*, *Hares*, &c. Also *Ostriches*, *Herons*, *Pelicans*, *Pheasants*, *Partridges*, *Geese*, *Ducks*, &c. They are well supplied with good Water, feed much Cattle, which they truck with Strangers for *Knives*, *Scizzars*, *Spoons*, and divers Toys; they have likewise much *Fish* in their Rivers.

The People and their Trade.

The Inhabitants are Black, have thick Lips, flat Noses, long Ears; and in a word, very ill-shapen. They are more barbarous and brutish than the rest of *Africa*, they are *Man-eaters*; their chief ornaments in their Apparel are, Chains of *Iron*, *Brass*, *Beads*, *Bells*, or the like; and cutting and slashing their Skins in several shapes. Clothing they have none, only in the Cold season they wrap themselves about with Skins of *Beasts*. *Towns* they have none, or very few, for the most part living in the *Woods* and *Forests*, like brute Beasts. But the *Cafres* on the East are much more civil than the others; most of them have made a part, and are yet subject to the *Mono-Motapa*, who about 50 years ago divided his Estate into four parts, giving to his eldest Son what is within Land, and by much the greatest part; and to his three younger Sons, *Zuiteva*, *Sedanda*, and *Chicanga*, towards the Sea-Coast, for their Portions. *Cefala* or *Zefala* seems to make its piece apart, whose King pays Tribute both to the *Mono-Motapa* and the *Portugals*; and these have divers *Fortresses* on the Coast, *Sena*, *Tete*, *Cuama*, &c.

Zefala is so abundant in *Gold* and *Elephants*, that some take it for the *Ophir* whither *Solomon* sent his Fleet every three years: And they give for a reason, that the *Gold*, *Ivory*, *Apes*, &c. which that Fleet brought, are here found in abundance; That this Fleet parting from the *Red Sea*, there is no likelyhood it should go to *Peru*, which some take for this *Ophir*; besides, that there is there neither *Ivory* nor *Apes*; but that it was rather to some part of *Asia* or *Africa*. They add, that there remains not far from *Zefala* some footsteps of ancient Buildings and Inscriptions, left there by Strangers long time ago: Nay likewise, that there is some Notes and Books how *Solomon* sent thither his Fleet. Moreover, the *Septuagint* translate *Sophira* instead of *Ophir*, and the name of *Sophira* is not overmuch different from *Sopholo*. However it be, there is here store of *Gold* both in the Mountains and Rivers, and often very clean and pure, as well in Powder as Sand; and this *Gold* is esteemed the best and finest in *Africa*, ours seeming but *Brass* in comparison of it.

The Country is healthful and pleasant, seated only on the Coast, the *Mono-Motapa* confining it within Land: A part of its now Inhabitants are not the Natives, but descended from that Coast which belonged to the *Mono-Motapa*. The Natives (as I said before) are Black, and *Idolaters* or *Cafres*, the others very swarthy, and for the most part *Mahometans*. They have a great Trade on this Coast for their *Gold*, two or three Millions being yearly brought hence, and that for Toys and things of a very small value, which are carried them from divers parts of *Asia* and *Europe*, and some parts of *Africa*.

The

- The ISLES of AFRICA, as they lie and are found
  - In the Mediterranean Sea,
    - And on the Coast of BARBARY; as the ISLES of
      - MALTA, — Marzalirocco, Valletta, Il Borgo, Madalena, Medina, St. Maria Melece, St. Maria Loretta, Rodumiseffa.
      - GOZA, — Goza Caſt, Scilendo.
      - Cumin, — Cumin.
      - Forfata, Gamelera, Cherçura, Lampeduſa, Limoſa, Panthalaria, Galata, Albuſama.
  - In the Occidental or Atlantick Ocean; as
    - On the Coaſt of MOROCCO; as the ISLES of
      - Madera, — Tonzal, Sancta Crux.
      - Porto Sancto.
    - The CANARY ISLES, or ISLES of
      - Forteventura, — Forteventura, Chabras, Lanegala.
      - Lancellotta, — Lancellotta, Porto de Cavallos.
      - Grand Canaria, — Canaria, Tedele, Arginogy.
      - Teneriffe, — Laguna, St. Crux.
      - Gomer, — Gomer.
      - Fer, — Hierro.
      - Palma, — Palma, St. Andre.
    - The ISLES ſeated about thoſe of the CANARIES,
      - Gracioſa, Alegria, St. Clara, Rocco, Savages.
    - The ISLES of CAPE VERD; or the ISLES of
      - St. Antonio, St. Vincent, St. Lucia, St. Nicholas, Salt, Bonaviſta, Mayo, Fuego, Brava,
      - St. Jago, — St. Jago, Ribera Grande.
    - Between GUINY, and the Lower ÆTHIOPIA, where are the ISLES of
      - St. Thomas, — Pavoaſan.
      - Printes, Annabon, St. Matthew, Aſſenſion, St. Helena, Ferdinando Po, Triſtan de Cubba, Gonçalo Alvares.
  - In the Meridional or ÆTHIOPIAN Ocean, as
    - On the Coaſt of ZANGUEBAR; as the ISLE of
      - Madagaſcar, or St. Laurence, — Vingagora, Tombajal, St. Andrew, Cacamboſe, Port of St. Vincent, St. Anthony, St. Auguſtine, Boamarage, Angoada.
    - The ISLES ſeated about the Iſle of MADAGASCAR, and in the Sea of ZANGUEBAR, particularly ſo called; among which are thoſe of
      - Zodoard, Penda, Zanzibara, Sanctus Rochus, Monſia, St. Chriſtophers, St. Eſprite, Comera, Alhadore, Syrtium, Nona, Baixo, St. Anthony, St. Maria, Radix, St. Maurice, Maſcarenhæ, Diego Roix, Johannis de Lisboa, Sancta Clara, Sancta Juſtæ, or Juliani, St. James, St. Vincent.
  - In the Red Sea, or Sea of Mecque,
    - And on the Coaſt of the Higher ÆTHIOPIA; as the ISLES of
      - Bahia Cabras, Suuquem, Miri, Meger, Maczuam, Balaccia, St. Pierre.

THE

THE ISLE OF MADAGASCAR, OR St. LAURENCE.

THE Iſle of *MADAGASCAR*, or *St. LAURENCE*, is much greater than any about *Africa*, if not the greateſt of both Continents. It ſtretches it ſelf from a little on this ſide the *12th* unto a little beyond the *26th* degree of *Meridional Latitude*, which are more than 14 degrees of *Latitude*; but ſloping from North North-Weſt to South South-Eaſt, it is from *Cape St. Sebaſtian* to that of *St. Romain* about 400 Leagues long. Its breadth ought to be conſidered at twice; in that part neareſt the *Equator* it is 60 or 75 Leagues broad; in that part towards the South the leaſt breadth paſſes 120, and ſtretches ſometimes to 150 Leagues. Iſle of *Madagaſcar*, with its length and breadth.

Our laſt Relations ſay, That it hath Mines of *Gold*, *Silver*, *Copper*, *Iron*, *Rocks* of *Chryſtal*, and excellent *white Marble*; that there are found *Emralds*, *Saphirs*, *&c.* many ſorts of *Gums* and *Rozins*, eſpecially great ſtore of that *Gum* which the *Druggiſts* call *Dragons Blood*, which they extract out of the *Flowers* of a certain Tree which grows there. They have alſo *Talque*, *Cotton*, *Indico*, *Sugar Canes*, *Saunders*, *Ebony*, *Ivory*, *Honey*, *Wax*, *Hides*. Their Ground yields *Salt*, *Salt-Peter*, and in moſt places *Grains*; and upon their *Sea Coaſts* is found abundance of *Ambergreeſe*. And for theſe, and ſeveral other Commodities that are here found, are brought them in exchange, *Corals*, *Pater-Noſters*, *Chains*, *Beads*, *Bracelets*, *Glaſs-Pendants*, and divers Toys, &c. Its Commodities and Trade.

Its Inhabitants are for the moſt part Black or very Tawny, and ſome White, which in all appearance came from *Aſia*: They are of a good Stature, and well ſhaped, are very tractable and courteous to Strangers, and more eſpecially to the *French*, than any other *Europeans*; are addicted to idleneſs, and not caring to cultivate the Earth; their Clothing is only a piece of *Cotton-cloth* of ſeveral colours, which they faſten about their Middles, and hangs down to their knees; and on their Heads, a Cap made of the Baſs of a Tree; beſides which, they adorn themſelves about their Neck, Arms, Legs, &c. with thoſe Toys aforeſaid. Their Feeding is exceeding groſs; their Houſes are no better than Hog-ſties, or little Huts made of Branches of Trees, except thoſe of their Princes which are made of Wood; but of no large ſize, nor over handſom: They lie upon Mats; and their Cloth which they wear about them in the day, ſerves for a Coverlid in the night. They are *Heathenish*, and given to Adoration, (ſome ſay they adore the *Devil*) uſing Sacrifices, which they do in the Woods, not having Churches; they have no *Civil Form* of Government, but he that can make the greateſt party, and hath the greateſt Family, is in moſt eſteem and command, to which end they have as many Wives as they can keep, to increaſe their Progeny. Its People and their abode.

They

The Isle very plentiful of Cattle.

They have a great number of *Oxen*, *Sheep*, *Kids*, *Hens* of divers sorts, and quantity of *Rice*; they make Wine with *Hony* and certain *Roots*, which is so strong that they are frequently drunk with it; they have for the most part those Beasts that are found among us; but yet all with some difference: Their *Oxen* have between their Neck and Shoulders a great lump of Fat, which they esteem excellent: Their *Sheep* have their Tails 20 Inches about, and as much in length: Their *Goats* are very high, and their *Hogs* little. They have *Salamanders*, *Camelions* of divers colours; *Apes* of many kinds, and believe that these *Apes* would speak, but for fear they should be compelled to labour. They have *Crocodiles* and *Tortoises*, of which some have their Shells so great, that they will cover 10 or 12 Persons; and they find sometimes 5 or 600 of their Eggs as big as *Hens Eggs:* their Flesh is delicate and fat, in taste resembling *Veal*. They have other *Tortoises* which are only 3 or 4 foot diameter; and their Shells being polished are figured with divers colours, of which they make *Cabinets*, little *Boxes*, and other pretty Movealles esteemed in the *Indies* and in *Europe*. Their *Pheasants* are stronger and fairer than ours, their *Partridges* bigger, and of divers colours: They have *Paroquets* as big as *Crows*, and black; another middle sort, and some as little as our *Larks*; the one and the other of divers colours: They have *Singing-Birds* not yielding to those of the *Canaries*. Their *Bees* are little, their *Hony* excellent; their *Ants* flie, and leave on the Bushes where they light a *white Gum*, which they use instead of *Glue*. Their *Colibri* or *Fly-Bird* scarce weighing two *Bees*, so little is it, feeding only on the Dew it sucks from Flowers. They catch in their Seas an infinite quantity of *Fish*; among others, *Skates* so great, that they are able to satisfie 300 persons one meal. Their *Date-Trees* supply them with *Drink*, their *Orchards* with *Fruits*, their *Cotton* with whereof to make *Thred* and *Stuffs* for Clothing, their *Indico* with a Blew colour, their *Tamarind* refreshes them; their *Rape* or *Balasier* blacks their *Teeth*, which by them is esteemed a great Beauty; they gather *Aloes* from several Trees. One of the principal riches of the Country is *Ebony*, both for its beauty, smoothness, and black colour, and for the flame and odour it yields in the fire: Its *Sap* infused in Water, heated and taken luke-warm, purges Flegm, and cures Venerial distempers.

Their Fowls.

Their Fruits.

Among their Fruits they have *Damsons* twice as big as ours; *Mirabolans* of many kinds, *Anana's*, *Citrons*, *Oranges*, *Pomegranates*, *Grapes*, *Dates*, *Coco-Nuts*, &c. They gather *Maniguet*, *Ginger*, and divers *Roots*, which they eat instead of Bread, and which serves for divers other uses; they have quantity of *Rice*, *Millet*, *Beans*, *Pease*, *French-Beans*, both red, white, green, and all sorts of *Pulse*. The *Sensitive Herb* is found among the *Tapates*, whose Leaf touched, they all close and shut up one within another, hanging towards the ground, and not raising up nor opening themselves again till a good while after, and that by little and little.

Its chief places.

The Isles hath many good Roads and commodious Ports, and every where are found good Water and Victuals; but the Air is unhealthful to the *Europeans*, by reason of the great Heat which here reigneth, it lying under the *Torrid Zone*; yet the *French* have established a Colony sometimes in one place, and sometimes in another. The Bay of *Anton-Gil*, or of St. *Anthony*, is the best in all the Island. On the same Coast, and farther towards the North, is *Boamarage*; more towards the South *Angoada*, and continuing *Cacambout*, *Manialoufe*, *Manajara*; or the Port of *Prunes*, *Matatane*, *Manapate*; or the Port of *Gallions*, *Manatenga*, *Anamboul*, *Romac*, near the Port St. *Cuce* and *Antipere*; or *Sancta Clara* near *Cape St. Romain*. All these places or Ports are builded with *Wood*, covered with *Leaves*, and inclosed with *Pallisadoes*, as throughout all the Isle. On the other side towards the West, and directly opposite to the Coast of *Africa*, are *Vingagora*, *St. Andrew*, the *Bay* of *Pracel*, *St. Vincent*, *St. James*; the Port or Gulph of *St. Augustine*, the best next to *Antongil*, *Tombaja*, &c. The middle of the Isle rises into Mountains covered with Wood, where is *Ebony*, *Saunders*, *Orange-Trees*, *Citron-Trees*, &c.

About

The Isle of Sancta Mary described.

About *Madagascar* are a great many of Isles, as that of *SANCTA MARY*, near the *Bay* of *Anton-Gil*, about ten or twelve Leagues in circuit, is fair and fertile; affords store of Provisions, and *Potters Earth*, and their *Seas* quantity of *Whales*, which they catch by darting on them a certain *Iron* fixed to the end of a Cord; which when they have tired themselves, they make to the shore; and of these *Whales* they make *Oyl*, with which, as also with their *Provisions* and *Potters Earth*, they drive a Trade.

The Isles of *Comeres* described.

The Isles of *COMERES*, are Five principal ones, as *St. Christophers*, *St. Esprit*, *Loura*, *Comera*, and *Gasidsa*. The *Inhabitants* of this last are perfidious; the others more civil, and under one King alone, who resides at *Ansuvanny*, where there is some Trade; the most part are *Mahometans*; the *Soil* is pleasant and fertile, because of the Rivers which descend from the *Mountains*, and water their *Fields*. They have all sorts of *Birds*, they have no *Iron*; they fetch from *Madagascar*, *Rice*, *Millet*, *Amber-greece*, and *Slaves*, which they transport into *Arabia*, and the *Red Sea*; from whence they bring *Stuffs*, and *Indian Habits*, *Amsium* or *Opium*.

In 1613. the *Hollanders* touched on this Island, and received great refreshment. It is observed, that for a Quire of common *Paper*, they had an *Ox*; for a common *Looking-Glass* another; for a Dozen of *Little Bells* which they fastned to *Hawks Legs* another; for a *Bar* of *Iron*, three *Oxen*, &c.

The Isle of *Maurico* described.

The Isle *MAURICE* or *SANCTA APPOLLINA*, between 19 and 20 degrees, seems to have been inhabited before the *Hollanders* established a *Colony:* It is about 15 Leagues in compass. *Mandelslo* saith, that this Island hath a good *Haven*, both deep and large enough for fifty Sail of great Ships to harbor in, which makes it to be very pleasant, having many *Mountains* which are well cloathed with *Trees*, and always green; among which, some are so lofty, that they seem to overtop the *Clouds*. And its *Valleys* as pleasant and green, and adorned with several sorts of *Trees*, as well those that bear *Fruits*, as *Cocoes*, *Dates*, *Oranges*, *Citrons*, &c. as those which yield none; as great quantity of excellent *Ebony*, and other *Trees*; some of whose wood is Yellow, others Red, others mixt; and all with fair and lively colours. The Leaves of their *Palm-trees* are large enough to cover a man; the *Birds* are here so tame, that they suffer themselves to be taken with the hand, or killed with a stick. They have *Tortoises* strong enough to bear a man, but fourfooted *Beasts* they have none.

Besides these Isles aforesaid, there are several others which are seated about the Isle of *Madagascar*, as Two bearing the name of *Deigosoares*: Two by the name of *Nunni Pereiræ*: Three by the name of *Deigo Roix:* Four by *Sancta Clara:* Two by *St. Romanus:* Three by *St. Julianus*: Three by *St. Jacobus:* Nine by *St. Vincent:* Three by *St. Christophers:* Three by *Comora:* And eight by the name of *Bugi*.

Also the Isles of *Boamarage*, *St. Anthony*, *St. Maria Radix*, *Mascarenhæ*, *Johannis de Lisboa*, *Syrtium*, and *Mosambicha-Nova*, with some others.

The Banks of *India* very dangerous for Shipwracks.

Between the Isle of *Madagascar*, and the main Land, about 70 Leagues from the Isle, 100 from *Cefala*, and 150 from *Mozambique*, are the Banks of *India* infamous for Shipwracks, and particularly for that of the Admiral *Fernando Mendoza* in 1586. The *Banks* and *Rocks* are of sharp Stones, and with divers points like to *Coral*, some black, others white, others green, but all horrible even to behold.

There rests a great number of Islands to the North and East, and between the North and East of *Madagascar*, and among these Isles many *Banks* and *Rocks*. We will omit a particular description of them, as unnecessary, and only say, that the *French* have often designed to establish a powerful Colony in the Countrey; encouraged by its Commodities, and the great Commerce it is like to maintain.

The Isles of CAPE VERDE.

The Isles of *Capt Verde* described, viz.

ONe hundred and fifty Leagues from *Cape Verde*, and towards the West, are a body of Islands which extend themselves from 13½, unto the 19 degree of *Latitude*, and from 153½, unto 157 or thereabout of *Longitude*. They are called in general the Isles of *Cape Verde*, because that *Cape* is the neareſt main Land to them. Amongſt theſe Iſles there are 10 in ſome conſideration, though a part of them not inhabited; they are ranged almoſt in form of a *Creſſant* or *Semi-Circle*, of which, the convex part regards the Continent, and the two Points, the *Ocean*: That which makes the Point towards North and Weſt, is that of St. *Antonio*, which thoſe of St. *Vincent*, St. *Nicholas*, and *Sancta Lucia* follow, advancing between Eaſt and South; then thoſe of *Salt*, *Bona Viſta*, and *Maya*, deſcend from North to South, and are the moſt Eaſterly of all: Thoſe of St. *Jago*, of *Fuego*, and *Brava*, the moſt Southern; returning from Eaſt to Weſt, and advancing a little towards the South. So that St. *Anthony* and *Brava* make the two Ends or Points towards the Weſt; *Bona Viſta* makes the middle of the half Circle towards the Eaſt.

St. *Nicholas.* *SANCTA LUCIA*, St. *NICHOLAS*, and St. *JAGO*, are the greateſt, having each 100 or 120000 paces of length; 15, 20 or 30000 of breadth; and 200 or 250000 paces of circuit. St. *Anthonio* and St. *Vincent* are leſs by more then half, and not of above 100000 paces in circuit; the reſt, which are the leaſt, have not above 30, 40 or 50000 paces. I make no account of ſeven or eight others, whoſe names have not been given us, and which are rather *Rocks* than *Iſles*.

St. *Jago.* St. *JAGO* is the greateſt and the chief of all, having a *Biſhops* ſeat in the City of the ſame name; beſides which, are *Ribera Grande*, with a good *Port* towards the Weſt, *Praya* towards the Eaſt, St. *Mary* towards the North, all with their *Ports*. Some place likewiſe St. *Thomas*, whoſe *Port* is dangerous, others St. *Domingo*, others St. *Michael*: poſſibly theſe fall under ſome of the others. *Ribera Grande* hath 500 Houſes; the Air is unhealthful, the Land hilly, but the Valleys fruitful in *Grains*, *Vines*, *Fruits*, *Sugar Canes*, *Millons*, &c. Feeding much *Fowl* and *Cattle*, and particularly *Goats* in abundance: Theſe *Beaſts* bringing forth young every four Moneths, and three or four at a time; and the *Kids* are very fat and delicate.

Sancta Lucia, St. Vincent, St. Anthony. *SANCTA LUCIA* is the beſt peopled after that of St. *Jago*. St. *Nicholas*, St. *Vincent*, and St. *Anthony*, have been eſteemed Deſert, yet they appear to have many Inhabitants, though not ſo many as they could feed: The Ships of the *United Provinces* paſſing here in 1622. found in that of St *Anthony* 500 perſons, *Men*, *Women*, and *Children*, all *Æthiopians*. St. *Vincent* and St. *Nicholas*, had no leſs. At *Mayo* theſe *Æthiopians* are ſtrong, and of good ſtature; but it is to be believed, that every where are ſome *Portugals* to keep the reſt in aw.

Salt. Bona Viſta. The *Iſles* of *SALT*, of *BONA VISTA*, of *MAYO*, and of St. *JAGO*, yield ſo great quantity of *Salt* which is made naturally of the Water, which the Sea from time to time leaves, that beſides what they conſume in the Countrey, they laded every year more then 100 Ships, which is tranſported into other Countreys; and yet there remains ſix times as much, which becomes uſeleſs. It is reported, that the Iſle of *Mayo* could make alone, lading for two thouſand Sail of Ships yearly; and the others not much leſs. The other riches of the Countrey lies in the Skins of their *Goats*, which are in ſo great quantity through all theſe Iſles, that many flocks are ſeen of 1000 Head. The Skins are ſent to *Braſil*, *Portugal*, and other places, and make excellent *Cordovants*. The Fleſh is ſalted in the Countrey, and ſold to Ships going and returning from *Braſil* to the *Indies*. Beſides the *Salt* and *Woats* which are the principal riches of the Countrey, they have many *Gild Horſes*, *Oxen*, *Apes*, &c. alſo *Cotton*, whereof they make ſeveral *Manufactures*.

Alſo

Alſo *Rice*, and many ſorts of *Grains*. Among their *Fowl*, they have one kind particular to them, which they call *Flamencos*; the Feathers of their Bodies are all White, and thoſe of their Wings Red as Blood. Their *Tortoiſes* are not above two or three foot long; they come out of the Sea, and lay their Eggs in the night, covering them with Sand, and the heat of the Sun hatches them. In *Fuego* and *Brava* they gather *Wines* which yield little to thoſe of the *Canaries*. Fuego, Brava.

The Sargaſſo Sea. Between the Iſlands of *Cape Verde*, and the main *Land*, inclining towards the *Canaries*, the *Sea* is called *Sargaſſo*, becauſe from the 20 to the 24 degree and for the length of 30, 40 or 50 Leagues, the *Sea* is covered with an herb like to that which is found in the bottom of Wells, and which the *Portugals* call *Sargaſſo*. This Herb, except that it is more Yellow, reſembles *Sea-Parſley*, bearing certain *Grains* or *Fruit* at the end, but of neither taſte nor ſubſtance. Many have been much troubled to know from whence theſe Weeds come, which are diſtant from the Iſles, and from the firm Land more then 60 Leagues, and in a part of the Sea, where there is no bottom found: Nevertheleſs, they are ſo cloſe, and in ſo great quantity, that the Water ſeems rather a Meadow or Green Field, then a Sea. *Ships* which fall among theſe *Weeds*, had need of a good Wind to diſingage themſelves; and I believe it was theſe which hindred *Sataſpes* from finiſhing his courſe about *Africa*, and were the cauſe of his misfortune. This *Sataſpes*, Son of *Teaſpes*, one of the *Achemenides*, having raviſhed the Daughter of *Zopyrus*, the Son of *Magabiſes*, was condemned by *Xerxes* to be crucified. His Mother, the Siſter of *Darius*, cauſed this puniſhment to be changed into another, to wit, he was cauſed to make the Circumnavigation of *Africa*; which could not be done without great difficulty and hazard. He embarked in *Egypt*, paſſed the Pillars of *Hercules*, entred into the *Occidental Ocean*, and paſſed far to the South, along *Africa*; but knowing that it would yet require much time and pains to end this courſe, he returned into *Egypt*, and thence to the Court, where he ſaid he had met with ſomewhat that hindred his Ship from paſſing farther. *Xerxes* took him for a liar, and made him ſuffer the death he was before condemned to. A ſtory of Sataſpes.

The Iſles of *Cape Verde*. But to continue: The Poſition wherein the Iſles of *Cape Verde* are now found, anſwers much better to the Poſition of the *Fortunate Iſles* of *Ptolomy*, then that of the *Canaries*. *Ptolomy* places his *Fortunate Iſles* between the 10 and 16 degree of *Latitude*; the *Iſles* of *Cape Verde* are between the 13 and 19; the *Canaries* beyond the 26. The *Meridian* of the *Fortunate Iſles* of *Ptolomy*, is at 8 degrees of *Longitude* from the Coaſt of *Africa*, and towards the Weſt. The leaſt *Meridian* of the Iſles of *Cape Verde*, is at 8 degrees of *Longitude* from the ſame Coaſt, and towards the ſame ſide. The leaſt *Meridian* of the *Canaries* touches the Coaſt of *Africa*. *Ptolomy* confines his *Fortunate Iſles* under one *Meridian*, and extends them from South to North, between the tenth to the ſixteenth parallel or degrees of *Latitude*, which are five degrees of *Latitude*. The Iſles of *Cape Verde* are not juſtly under one *Meridian*, but under two or three, and extend themſelves from the 13½ to the 19, which are five degrees of *Latitude*. The *Canaries*, on the contrary, are all couched from Weſt to Eaſt, and almoſt under the ſame parallel or degree of *Latitude*, which is the 27; lengthning themſelves from the firſt to the 6 of *Longitude*. Theſe four Reaſons are very ſtrong to prove, that the Iſles of *Cape Verde* do rather anſwer to the *Fortunate Iſles* of *Ptolomy*, then the *Canaries*. Their diſtance in regard of the *Æquator*, is not different from that of the *Fortunate Iſles* of *Ptolomy*, but three degrees; that of the *Canaries*, is 15. Their diſtance in regard of the Coaſt of *Africa*, agrees with that of the *Fortunate Iſles*, not with that of the *Canaries*. The diſpoſition of their ſcituation from South to North, approaches near to that of the *Fortunate Iſles*; and the number of the degrees of *Latitude* which they contain, abſolutely agrees with it. The ſcituation of the *Canaries* from Eaſt to Weſt, and the little *Latitude* they contain, are much contrary. Notwithſtanding all theſe Reaſons, we ſhall yet make it appear, that oft-times we muſt not conclude on the Poſitions of *Ptolomy*, and that the *Canary Iſlands*

answer to the *Fortunate* Islands of *Ptolomy*, and the Ancients, and not these of *Cape Verde*.

Let us speak first a word of the *Madera's* and *Porto Sancto*, which belong to the Crown of *Portugal* as well as those of *Cape Verde*. But before I pass to the *Madera's*, a word or two concerning its Inhabitants, who *Mondelsso* maketh to be black, corpulent, but well proportioned; he saith, they are envious, mischievous, and dangerous people; for the most part *Pagans*, worshipping the *Moon*, and adoring the *Devil*, whom they call *Cammate*: Some of them are *Mahometans*, as far as Circumcision. They marry many *Wives*, whom they make to labour like *Slaves*, as well in the Fields as in their Houses; and they are accustomed to such hardship, that as soon as they are delivered, they go and wash themselves and the Child in the Sea or next River. They are not admitted to sit at meals with their Husbands, but wait till they have din'd or supt. They believe the Resurrection of the Dead, but withal think that they shall rise *White*, and trade there as the *Europeans* do. He saith, they are great *Drunkards*, and their debauches are always at the Funeral of their Friends, which commonly lasts four or five days together: During which time they do nothing but drink and weep in remembrance of their Friend departed. They are very turbulent and quarrelsome, being always at wars with their Neighbours; their *Arms* are the *Bow*, and a kind of *Lance*, in which they are very expert. He saith also, that the greatest Marks of their Victories, are the *Privy-parts* of their Enemies, which they cut off, and give to their *Wives* who wear them as *Neck-laces*, which by them are esteemed far beyond *Pearl*.

The Fertility. The Countrey is indifferently fruitful, hath store of *Cattle*, as *Oxen*, *Beufflers*, *Elks*, &c. whose *Hides* they have a good Trade for; as also for *Elephants Teeth*, *Wax*, *Rice*, *Amber-greece*, *Sugar Canes*, *Cotton*, whereof they make several *Manufactures*, *Cordovants*, &c.

MADERA Island.

The *Madera* Isle first discovered by the *Portugals*. THe Isle of *MADERA* or *MADEIRA* as the *Portugals* say, is under the 32 degree of *Latitude*; about 25 Leagues long, 8 or 10 broad, and 60 of circuit. It was discovered in 1420 by *John Gonsalvo* and *Tristan Vaez*, under the *Auspicies* of *Henry Infanto* of *Portugal*; and under the same *Johannes Zarco*, and likewise *Tristan Vaez*, discovered *Porto Sancto* in 1428. The one and the other were Desert, and particularly *Madera* was so covered with *Wood*, that they were fain to set it on fire to make room for what they would Till. The *History* saith, that this fire lasted six or seven years, before it ran through all the Island and consumed the *Woods*; and among the first *Inhabitants*, some were constrained to save themselves in the Water, to avoid the heat of the Earth; but yet their design so well succeeded, that the Earth, for a long time after, yielded sixty for one; which by little and little, diminished to 50, 40, 30, and possibly now to twenty five for one. The Air is almost always temperate, many *Fountains*, and seven or eight *Rivers* so refresh this Countrey, that it is very pleasant and fertile. The *Vines* bear more bunches of *Grapes* than *Leaves*, and their wine is strong and racy; their *Wheat* excellent, though the Countrey be Mountainous: Their *Sugars* delicious, bearing the Bell from all others; they have much *Fowl*, as *Hens*, *Pigeons*, *Quails*, *Partridges*: they have quantity of *Fruits*, as *Oranges*, *Citrons*, *Pomegranates*, *Honey*, *Wax*, *Dragons Blood*, *Cordevants*, *Cedar-wood*, with which they make all sorts of *Joyners* work so artificially, that it is transported into *Europe*, and elsewhere. Those *Mountains* and *Woods* which are restocked, have *Wild Boars*, &c. Its principal Towns, are *Tunghal* or *Tonzal*; the chief of the Island, and a *Bishoprick*, *Moncherico* or *Monchico*, and *Sancta Crux*. All the Island contains 36 *Parishes*, 5 or 6 *Religious Convents*, 4 *Hospitals*, 6 or 7000 *Houses*, and about 25000 *Persons*; so many *Castles* and *Gardens* in the *Field*, that it seems a Garden of Pleasure.

Its Air, Fertility, and commodities.

Its chief places.

The

Porto Sancto. The Isle of *PORTO SANCTO* or the *Holy Port*, hath almost the same Commodities with *Madera*, but is not above 8 or 10 Leagues in circuit; hath no Fortress, which was the reason that in 1606. the *Pyrates* took away 6 or 700 persons. *Madera* answers to the Ancient *Cerne Atlantica*, and some have esteemed *Porto Sancto* to answer to the Ancient *Ombrio* or *Inaccessibilis*; but we shall shew the Countrey in the *Canaries*.

The CANARY Islands.

The *Canary* Islands described, *viz.* THe *CANARY* Islands are Westward of *Africa*, almost opposite to the *Capes* of *Bojador* or *Non*; they are to the number of Seven, seated between the 26 and 28 degrees of *Latitude*; and between the 5 and 6, or little more of *Longitude*. If we comprehend some little Isles above *Lancelotta*, and likewise the *Salvages*, they would reach to the 29 or near the 30; if likewise the *Madera*, and *Porto Sancto*, they would pass beyond the two and thirtieth degree of *Latitude*. But there are few Authors esteem the *Salvages*, almost none the *Madera*, among the *Canaries*, because this last is too far distant and belonging to the Crown of *Portugal*; the *Canaries* to the Crown of *Castile*; and the *Salvages* being Desert, almost no account is made of them. And now we shall make it appear, that the Body of the *Seven Isles* of the *Canaries*, answers in all things to the Body of the *Seven Fortunate Isles* of the *Ancients*.

Canary Isles; the *Fortunate* Isles of the Ancients, & why. We have before set down those Reasons which might make us believe, that the Isles of *Cape Verde* might answer to the *Fortunate Islands*, but now shall produce others, and those stronger for the *Canaries*. In the *Occidental* or *Atlantick Ocean*, and to the West of *Africa*, *Ptolomy* makes account of only one Body of Islands, which he describes to the number of six. We find now in that *Ocean*, and not far from *Africa*, three different Bodies of Islands, and each very considerable; to wit, the *Azores*, the *Canaries*, and those of *Cape Verde*. Of these, the *Canaries* are neerest to *Africa*, and the most Eastern; the *Azores*, the farthest and most Westerni; and those of *Cape Verde* do remain in the middle, as to *Longitude*: And moreover, those of *Cape Verde* are the neerest the *Æquator*, and most Southernly; the *Azores* the farthest off, and most northernly; and the *Canaries* in the midst, as to *Latitude*.

Now the one of these three Bodies of Islands must answer to the *Fortunate Isles* of the *Ancients*, and of *Ptolomy*, placed in the first *Meridian*; and among *Modern Authors*, if there be any which would give the first *Meridian* to the *Azores*; and others to those of *Cape Verde*; and others to the *Canaries*; it is for the most part out of the belief they have, that one or the other answer to those *Fortunate Isles*.

Ptolomy having made account but of one body of Islands in the *Occidental Ocean*; it is more likely to be that which is neerest the Main Land, and *Gades*, then those farther off. This reason makes for the *Canaries*. *Pliny*, *Solinus*, *Capella*, and others, have made account of three different Bodies of Islands in this *Ocean*; to wit, the *Fortunate Islands*, the *Gorgades* or *Gorgons*, and the *Hesperides*, placing their *Fortunate Isles* near the Coast of *Mauritania*, the *Gorgades* two days sail from the Coast, and the *Hesperides*, forty days sail farther then the *Gorgades*, and at the bottom of some *Gulf*; so that these answer, either to the *Azores*, or to the Isles of St. *Thomas*, in the bottom of the *Æthipian Ocean*; or rather to the *Antilles* or *Caribes* in the *Gulf* of *Mexico*, as we shall speak more in another place: They cannot answer to the *Canaries*, nor can the *Gorgades* answer to others than those of *Cape Verde*; the *Canaries* then remain for the *Fortunate*: This is another reason for the *Canaries*. But the goodness of the *Air*, the fruitfulness of the *Soyl*, their *proximity* to the Coast of *Africa*, the names and particularities of every one of the *Fortunate Isles*, absolutely concluded them the *Canaries*.

The

The *Fortunate Isles* received this name from the *Ancients* only, because of the healthfulness of the *Air*, and fruitfulness of the *Soyl*. The *Canaries* are excellent healthful, the *Azores* little, and the Isles of *Cape Verde* not at all healthful; likewise the *Canaries* have the best *Grains*, *Wines*, *Fruits*, *&c.* that are in the *World*, which they transport every where. The *Corn* of the *Azores* will not keep, and their *Wines* are consumed in the Countrey, not being strong enough to be transported to other places. In the *Isles* of *Cape Verde*, the Inhabitants can scarce gather *Corn* and *Wine* necessary; exporting nothing but *Salt* and *Goats Skins*. *Pliny* esteems some of his *Fortunate Isles* 8000 paces from the Coast of *Africa*; the *Azores* are 300 Leagues; those of *Cape Verde*, 150: Among the *Canaries*, *Forteventura* is not above 10 or 12 Leagues from *Cape Bojador*. The *Air*, *Soyl*, and *Neighborhood* to the Coast of *Africa* makes them for the *Canaries*: Let us proceed to confer their old and new names, and other particulars. *Ptolomy* calls his *Fortunate Isles*, *Aprositos*, that is, *Inaccessibilis*; *Heræ*, that is, *Junonis Insula*, *Pluitalia*; *Ortelius* reads *Pluitalia*, *Casperia*, *Canaria*, *Centuria*, which interpreters write *Pinturia*. *Pliny*, *Solinus*, and *Capella*, call them *Ombrio*, *Junonia*, *Junonia Minor*, (instead of which, *Ortelius* puts *Theode*) *Capraria*, *Nivaria*, and *Canaria*.

In the numbring of these Isles; *Pliny* and his two *Apes* or *Copiers*, *Solinus* and *Capella*, agree upon six, changing little in the rank, names, and number of *Ptolomy*; but *Pliny* makes mention of one *Pluvialia*, among his *Fortunate Isles*, a little before he comes to number the other Six. This *Pluvialia* must then be a Seventh, and possibly *Theode* the 8.

Conferring the *Fortunate Isles* of *Ptolomy*, with those of these three Authors, we shall find that his *Aprositos* answers to their *Ombrio*; his *Heræ Insula*, to their *Junonia*: There is nothing answers to their *Junonia Minor*, or *Theode*, whether they be two different, or only the same *Island*: His *Pluitalia* answers to the *Pluvialia* of *Pliny*, which the two others did not know; his *Casperia* to their *Capraria*; his *Canaria*, to their *Canaria*; and his *Centuria* or *Pinturia*, to their *Nivaria*. Some names being corrupted by others.

At present it will be hard to judge which of the *Canaries* answer to each of the *Ancients* Fortunate *Isles*; yet let us see if we can effect it, and do it better then others have done; there is no difficulty for the Great *Canary*, since it retains its ancient name: The *Isle* of *Ferr* also most apparently answers to the *Pluitalia* of *Ptolomy*, or rather to make all particulars better accord with the *Pluvialia* of *Pliny*, where he saith, *Non esse aquam nisi ex imbribus*, as at this day according to the common opinion, it hath no Water, but what distills from a certain Tree, always covered with Clouds. The *Isle* of *Teneriffe* likewise, whose Pike is always covered with Snow and Clouds, may answer to their *Nivaria*, *quæ nomen accepit à perpetua nive*. *Nebulosam*, saith *Pliny*; *ab aere Nebuloso*, saith *Solinus* and *Capella*. There remain four or five *Islands* wherein will lie the difficulty, *Aprositos*, *Junonia*, *Junonia Minor*, *Theode*, if it be other then *Junonia Minor*, and *Capraria*.

Pliny seems to joyn this *Capraria* with *Pluvialia*, and saith after *Sebosus*, *Junoniam abesse à Gadibus* 150000 *pa. ab ea tantundem ad occasum versus Pluvialiam*, *Caprariamque*. Seeing the great distance he gives between these *Isles*, and from East to West, it may be said, that *Pluvialia* and *Capraria* are the most Western of the *Fortunate Isles*; *Junonia* the most Eastern; and that of the *Isles* of *Ferr* and *Palma*, being the most Western of the *Canaries*; that of *Ferr* being already allowed for the *Pluvialia*; *Palma* will rest for the *Capraria* of *Pliny*. On the other side, *Junonia* being the most Eastern, and 750000 paces from *Gades*, it must either answer to the *Forteventura* or *Lancelotta*, which are the most Eastern of the *Canaries*, and 6 or 700000 paces from *Gades* or *Cadiz*. But *Pliny* and *Solinus* make mention of two *Junonias*, of which, one being less than the other, we will give *Lancelotta*, which is the least, for their *Junonia Minor*; and *Forteventura* the Greater, for the other *Junonia*: And it seems in this passage, *Pliny* would observe those he met with first, from the nearest to the Coast, to the farthest off. Of the *Seven Canary Islands* we have given Six, which answer to the other Six among the *Fortunate*

tunate Isles. There remains the *Isle* of *Gomer*, among the *Canaries*; and *Ombrio* or *Aprositos*, among the *Fortunate Isles*: This might make it be judged, that none must answer to the other; but there are many reasons to the contrary. The name of *Aprositos*, that is, *Inaccessible*, or of *Ombrio* and *Ombriona*, as *Capella* writes it, shews, that this Isle hath been in a manner unknown, in regard of its Neighbors; nay, it seems impossible to be landed upon. *Gomer* is between the *Isles* of *Ferr*, *Palma*, and *Teneriffe*; these three having been known, *Gomer* being in the midst and near these *Islands*, must likewise be known; and the Port of *Gomer* being one of the best, and most frequented of the *Canaries*, it cannot answer to the *Aphrositos* of the *Ancients*. Let us therefore leave this *Gomer* for *Theode*, and say,

That farther in the *Sea*, and about 100 miles, or, as others say, 100 Leagues from the *Canaries*, is an *Isle* they call *San Borondon*: Authors say, that those which think not of it, find it sometimes by chance; but that it is never found by those who expresly seek it: However it be, it is held for truth, and *Vincent Blanc* assures us, that from the top of *Teneriffe*, whence may be seen all the *Canaries*, this is likewise sometimes seen, yet that those which attempt to go to it, cannot find it, though with great pains; whether it be that the Fogs hide it, or that some Current carries them from it; and for this reason they have given it the name of *Fortunada*, *Incontada*, and *Nontrovada*, *&c.* After all these particularities, I can doubt no longer, but this Isle is the *Aprositos*, *Inaccessible*, and the *Ombrio*, that is, the shadow of the *Ancients*. And so the whole body of the *Canaries*, will answer to the whole Body of the *Fortunate Isles*, without adding the *Madera*; and from hence we have reason to place the first *Meridian* in the *Canaries*, as *Ptolomy* hath placed it in the *Fortunate Isles*, since these first answer to the last; which will give a great facility to the reconcilement of *Ancient* and *Modern Geography*, otherwise not to be done. Let us proceed to what each of the *Canaries* may have at present considerable, beginning with those nearest the main Land.

The Isle of *Forteventura* described.

Forteventura, once *Erbania*, is not far distant from the *Cape Bojador*, above 10 or 12 Leagues; from the Great *Canary* 16 or 18; from *Lancelotta* 6. Its greatest length is 25 Leagues, 15 or 16 its greatest breadth. In the middle, it streightens so much, that there remains only a League or two from one *Sea* to another: And this part was crossed with a Wall, which separated the Island into two Estates, when it was discovered. The Land is partly Mountainous, and partly in Plains; fruitful in *Wheat* and *Barley*: Along the Coast glide many streams of *Fresh Water*: and along these streams are the *Tarhais Trees* crooked and soft, which bear *Gum*; of which is made pure white *Salt*. In the Countrey, besides the *Palm Trees*, which bear *Dates*, the *Olive Trees*, *Mastick Trees*, and the *Orsolle*, a Grain for Dying, there is a kind of *Fig-tree*, from which they have *Balm* as white as *Milk*, and which is of great vertue in *Physick*. They make *Cheese* of their *Goats Milk*, with which the Countrey is so well stocked, that they may afford more then 50000 yearly; and besides the profit made of their *Skins*, and their *Fat*, (each *Beast* yielding 30 or 40 pound) their *Flesh* is excellent. The *Ports* of this Island are not proper, but for smaller Vessels. Its chief places towards the *Sea*, are *Forteventura*, *Ricquerocque*, *Chabras*, *Baltarhays*, *Lanegala*, *Pozonegro*, and *Tarafalo*. Most of which are well frequented by *Merchants*, especially by the *English*, who of late are incorporated into a joynt Fellowship and Stock; and not only to this Isle, but to all the *Seven Canary Isles*.

The Isle of *Lancelotta*.

LANCELOTTA is 16 or 18 Leagues long, and 10 or 12 large: The acces to it, is difficult on the North and West Coast; the Countrey is plain towards the East, and the Continent where its *Town* and *Ports* are, as *Cayas* or *Lancelotta*, *Porto de Nayos*, and *Port de Cavallos*: These last are near one to the other; the Isle hath the same properties with that of *Forteventura*.

The

The Great Canary Isle.

The *GREAT CANART* is almost equal in length and breadth, which is about 18 or 20 Leagues. It is the principal of these Islands, both because of its greatness, fertility, and the goodness of its Air; and because the *Governor* and *Bishop* of these Islands, whose yearly Revenue is 12000 Ducats, have their Residence in the City *Canaria*, which is fair, its Inhabitants well clad, and civil; and how hard soever it rains, its streets are dry, being only Sand. Its other places are *Tedele*, *Galder*, *Argores*, *Gusa*, and *Del Douze Ingennos*, or *Twelve Sugar Engines*. This Island it exceeding fruitful, and the *Soyl* so fertile, that they have two Harvests in one year, reaping their *Wheat*, *Barley*, and other *Grains* in *February* and *May*. Their *Wheat* is excellent, and its Bread very white; but from the excellency of its *Fruits*, as *Oranges*, *Citrons*, *Pomegranates*, *Figs*, *Olives*, *Apples*, *Pears*, *Peaches*, *Melons*, *Potato's*, and above all, from its *Wine*, which is far beyond that of *Spain*. (Which among all others, bears the Bell with us in *England*.) From these we may judge of the goodness of the Island. They have also several other good Commodities, as *Honey*, *Wax*, *Sugar-Canes*, *Cheese*, and *Wood*, in great abundance; and breeds such plenty of *Cattle*, that the *Leather* is not one of the least Commodities they vend to other Nations, as *Spain*, *England*, *Holland*, &c. They have also store of *Fowl*; it is well covered with *Firr Trees*, *Dragon Trees*, *Palm Trees*, &c. And its *Rivers* well filled with *Fish*; but above all, they have *Plantons* which delights in Water; it is cut and shoots forth yearly into three or four Branches; each Branch bears 30 or 40 *Apples*, resembling a *Cucumber*; they incline to black; being ripe, they eat more deliciously then any *Comfit* in the World.

Its Inhabitants, chief places, fertility, commodities, and Trade.

The Isle of *Teneriffe*, with its high Pike *Teitha*, described.

TENERIFFE, which some call *Enfer*, is distant from the *Grand Canary* 16 or 18 Leagues, towards the North-West: Its utmost length is about 24 or 25 Leagues, and 12 or 15 its greatest breadth. The Land is raised in little Hills, and towards the middle, is the Pike of *Teitha* or *Terreira*, a streight and round Mountain, which reaches in height 45000 *English* paces, which is 45 miles, (some make it not so high, others higher;) but all agree that it is the highest Mountain in the World; even so high, that it may be seen in a clear day 60 Leagues distance at Sea; and from the top of it, a man may easily discover, and count all the other *Canary Islands*, though some of them be above 50 Leagues distance from this. It often casts forth fire and Sulphur: Its *Summit* is in form of a *Sugar Loaf* or sharp point, called the Pike of *Teneriffe*: For two or three miles about it, are only *Cinders* and *Pumice Stones*; two or three Miles lower, all is covered with *Snow* throughout the year, though there never fall any in those Islands; and yet lower are found the great *Trees Vintaico*, whose Wood is very weighty, and never rots in Water. Under these *Trees Laurels* cover almost 10 or 12 miles of the Countrey, where the *Singing Birds* of the *Canaries*, known among us by the name of *Canary Birds*, warble their pleasant notes. The foot of the Mountain casts forth divers Branches, and extends it self into a good part of the Island, which abounds more in *Corn*, then any of the rest; and sometimes it alone feeds them all. The Countrey between *Rotana* and *Realejo*, is so fruitful and pleasant, that its like can scarce be found in the World, such quantity it produces of *Grains*, *Wines*, *Fruits*, *Honey*, *Wax*, *Sugar*, *Flax*, *Silk*, &c. And from hence they have their *Vines* which they carry to the *West Indies*; the best of which grow on the Coast of *Ramble*. There are certain *Shrubs* which yield a liquor like to *Milk*, which after it is thickned, makes an excellent *Gum* called *Taybayba*. From the *Dragon Tree*, cut towards the Root, they draw a red liquor which they call *Dragons Blood*, well known to *Apothecaries*. Its principal City *Laguna* so called, because of the Lake near to it, is 4 or 5 Leagues from the *Sea*, contains two parishes, and is the residence of the *Governor* of the Island. The other Cities, are *Sancta Crux*, *Rotana*, *Rajalesa*, *Carachico*, and *Adeca*. When it was discovered, its Kings to the number of seven dwelt in *Caverns*, and the bodies of their dead were set up about *Caves*, where they became as dry as Parchment; among which, the most honorable had a stick put in their hand, and a vessel of *Milk* before them.

Its Fertility.

Its chief places

The Isle of *Gomer* described.

GOMER is 8 or 9 Leagues from *Teneriff*, is 10 or 12 Leagues long. Its chief City of the same name, often receives the *Indian Fleet*, and furnishes them with *Corn*, *Fruits*, *Sugar*, and *Wines*, as well as those of *Teneriff*, and *Canaria*. The Countrey is high, plain, bears many *Dragon-trees*, feeds small Cattle. Its Roads are deep and large: The People of this Isle were formerly more barbarous than those of the other *Canary* Isles, using many strange Customs not known elsewhere; among which they held it for a great sign of *Hospitality*, to let their Friends lie with their Wives, and receive theirs in testimony or return of kindness.

Isle of *Ferr* described.

The Isle of *FERR* is the most West of all the *Canaries*, distant from *Palma* 15 or 16 Leagues; from *Gomer* only 5 or 6. This Isle in reason should be well known, many persons having been there, and many Authors treated very amply of it; yet I will a little shew the diversity found touching the greatness, and quality of the soyl; as also the Water with which the Isle is served. Its chief place is called *Hierro*, seated on the Sea shore. Here is found plenty of *Hogs*, *Goats*, and *Sheep*; also of *Beasts*, *Fowl*, *Fruits*, and quantity of *Grains* and *Sugar Canes*, and hath much *Cattle* which yield abundance of Milk and Cheese. Here is said to be no fresh Water, only in the middle of the Isle there grows a Tree, whose Leaves are much like those of the *Olive*, which being alwaies covered with Clouds, drops from its Leaves into a *Cistern* which is underneath it, very good Water; and in such great abundance, that it suffices all the Inhabitants; as also all the Cattle and living Creatures in the *Island*. One *Jackson* an *Englishman*, who reports to have seen, considered, and measured this Tree in 1618, saith, That the water falls into a *Pond* containing 20000 Tuns, which in one night is filled; and that from this *Pond* the water is by divers Channels conveyed into other *Ponds* or *Cisterns*, through the whole *Isle*, which is very well peopled: some say it hath in it about 8000 people, and above 100000 head of *Cattle*, which for an *Island* but of six Leagues Circuit is very well; for if the Tree be in the middle of the *Isle*, it cannot be above a League distant from any extremity; and moreover more than 20000 Tuns of water, for 100000 months will be a Tun a day, for every five months, which is too much drink, if they drink nothing but water.

A Tree whose Leaves distil Water, which serves the Isle, there being no Rain or Rivers.

These particulars are contradicted by others. *The Conquest of all these Isles* saies *many Trees*, not one alone, otherwise it would be immortal. *Sanutus* saith, that the Cloud begins to rise about noon, and in the evening quite covereth the Tree, which at the same time destills water, drop by drop along the trunk, branches and leaves; and that it continues so till day. Others say, that this water falls from Noon all night, until a little after the Sun be risen. But most will have the Cloud perpetually about the Tree, and that it destills continually. *Suarez* makes the *Pond* or *Cistern* of not above 20 Tuns. The relations of 1602. say, two *reservers*, each 20 foot square; but neither *Suarez* nor others makes any mention of other *reservers* in the *Isle*; but will have this water in one place alone whither all go to fetch it. But let us pass from the *Ocean*, into the *Mediterranean Sea*, and come to *Malta*, which is one of the best, but none of the least considerable pieces of *Africa*. Nigh unto these 7 *Islands*, called the *Canary Isles*, are the Isles of *Roco*, *Sancta Clara*, *Gratiosa*, *Alegria*, and the two *Savage Isles*.

PALMA is distant from *Gomer*, 12 or 15 Leagues to the North West. It is round or oval, and its Circuit about 25 Leagues: Abounds in *Corn*, *Wine*, *Sugars*, and all sorts of *Fruits*. It is well stored with *Cattle*, and therefore made the victualling place of the *Spanish Fleet* that pass to *Peru* and *Brasil*. The City of the same name, hath great confluence, by reason of its *Wines*, loaden for the *West-Indies*, and other places. Its best, and like to *Malvoisie*, is made about *Brenia*, whence are taken more than 12000 Pipes yearly; also St. *Andre*, and *Tassa Corde*, are on the Sea. It hath little Corn, which is brought from *Teneriff*. Four *Sugar Engines*: the Church of *Palma*, and the Governors House, are esteemed fair.

The Island of MALTA.

The Isle of Malta.

THe *Isle* of *MALTA* is in the middle of the *Mediterranean Sea*, and almost at an equal distance from the main Land of *Asia*, and *Europe*. It is about 600 Leagues from the Coast of *Souria*, and 500 from the Streight of *Gibralter*: This Streight beginning the *Mediterranean Sea* towards the West; and that Coast ending it towards the East. Likewise from *Malta* to the

Its situation.

neareſt firm Land of *Europe*, which is *Italy*; and to the neareſt Coaſts of the firm Land in *Africa*, which are the Coaſts of *Tunis*, and *Tripoly*, (theſe bounding the *Mediterranean Sea* on the South, that on the North) is 80, 90, and near 100 Leagues.

The Antients have eſteemed it rather in *Africa*, then in *Europe*, and the opinion hath been followed by almoſt all modern Authors: though it be neareſt the Iſle, and Kingdom of *Sicily*, which is in *Europe*, and from which it likewiſe holds, then to *Africa*: and though it be in the hands of the *Knights* of *Malta* who are all *Europeans*, the native tongue of the Country, and moſt of their Cuſtoms, have alwaies more reſembled thoſe of *Africa*, than *Europe*.

The Iſle famous for being the ſeat of the Knights of Malta.

This *Iſle* at preſent is very famous, not for its greatneſs, nor for its fertility, neither for Antient renown; but by reaſon it is the reſidence of the Great *Maſter*, and *Knights* of St. *John* of *Jeruſalem*, whom at preſent we call of *Malta*, where they have ſettled ſince they loſt *Rhodes*: and becauſe it ſerves as a powerful Rampire for all Chriſtendom, and particularly for *Sicily* and *Naples*.

Its length and breadth.

The length of the *Iſle* is not above 20, or 25000 paces, its breadth 10, or 12000, and its Circuit about 60000 paces, which are 20, or 25 *Italian* miles in length, 10, or 12 in breadth, and 60 in Circuit. The *Soil* except the Antient City of *Malta*, is almoſt all ſtones, craggy, and dry: yet it produces

Its ſoil and Commodities.

Wheat, *Barley*, *Cummin*, and all ſorts of *Fruits*; among others *Figgs*, *Apricocks*, *Citrons*, *Melons*, *Grapes*, &c. It feeds *Horſes*, *Aſſes*, *Mules*, *Hogs*, *Goats*, *Sheep*, *Hares*, *Conies*, *Hens*, *Partridges*, *Quails*, *Faulcons*, and other *Birds* of prey. And its *Beaſts*, *Fowl*, *Grains*, *Fruits*, as likewiſe their *Capers*, *Honey*, and *Cotton*, of which they make *Cotton Cloth*, and ſeveral *Manufactures*, are excellent; yet it wants much *Corn*, and *Wine* for the neceſſary food of its Inhabitants, which are 75 or 80000 ſouls: and among which there are about 15 or 16000 *Souldiers*, beſides the *Knights*, ſo that they are conſtrained to fetch their proviſion from *Sicily*, which they have at a certain rate, and with priviledge to pay no Cuſtom.

Its Inhabitants.

The natural *Inhabitants* of this *Iſland* are ſaid to be miſerable, churliſh, and uncivil *people*, of complexion, not leſs tawny then the *Moors*; uſe the *African* Language, but follow the Religion of the Church of *Rome*, which the *Knights* are bound to defend. Their women are fair, who are debarred the ſociety of men, and go veiled, as not deſiring to ſhew themſelves, and are guarded after the *Italian* manner; they have here a great many of *Curtizans*, which are tolerated, who for the moſt part are *Grecians*, who ſit at their doors playing on Inſtruments, &c. to intice men in to them.

Its Ports, Roads, and chief places.

On the Coaſts of this *Iſle*, and beginning by *Malta*, and turning towards the Eaſt, South, and Weſt, &c. to make the Circuit, the *Ports*, *Roads*, and *Harbours*, which preſent themſelves, are *Marza*, or *Marza-ſcala*: then *Marza ſirocco*, where the *Turks* landed the 19 of *May* 1565, when they had a deſign to beſiege *Malta*. The Great Maſter *Vignacour* hath ſince cauſed to be built two *Forts*, which defend the entrance,; and a third upon that *languet* or tongue of land, which advances into the middle of the Port, enough to hinder any for the future from caſting Anchor there in quiet; continuing towards the Coaſt which regards the South, and far towards the Weſt, is nothing but *Rocks*, except it be a little *Bay* or *Golfe* of *Pietra Negre*, others call it *Pietra Sancta*, where the 5 of *July* arrived the firſt ſuccour in favour of *Malta*. This relief was but of ſix hundred men, who paſſed from *Pietra Sancta* to the old City and from thence

thence to the Bourg *Il-Borgo*, which the *Turks* beſieged, after having taken the *Fort* of St. *Elmo*, and this aſſiſtance ſerved much to the defence of that place. *Pietra Sancta* regards towards the South, the Rock of *Forfolo* or *Furfura*. Towards the Weſt are the *Golfes* or *Bayes* of *Anteofega*, the *Iſlanders* call it *Hayntofeca*, then *Muggiaro* where the *Turks* firſt caſt Anchor the 18 of *May* 1565. Between the Weſt and North is the *Bay* or *Port* of *Melecca*, where the great relief arrived the 7 of *December* following. *Melecca* regards the Iſland of *Goza*, and in the ſtreight or channel between both are the Iſles of *Cumin*, and *Cuminat*. This part of the Iſle about *Melecca* is almoſt divided from the reſt, by the *Golfe* or *Port* of the *Saline Vecchie*, or *old ſaltpits* towards the Eaſt; and that of *Muggiaro* towards the Weſt; and if the *Turks* had ſeized the paſs which is between them, this aſſiſtance had proved vain. Next to the *Golfe* of the old *Saline*, is the Creek and Chapel of St. *Paul*, where according to common tradition he was ſhipwrackt: next is the Creek of new *Salines*, and the Creek of St. *George*, where the *Turks* diſ-imbarked their Ammunitions to ſerve to aſſault the Fort St. *Elmo*. And in fine, the Ports of *Marza Maſſetto*, and *Marza grande* are thoſe where at three ſeveral times have been builded, and fortified three Cities, and divers Forts contiguous to each other. *Il Borgo*, or the *Bourg* is 2000 paces in Circuit, the Iſle of *Sengle* 1500, each of 1000, or 1200 houſes, the one and the other ſo well fortified, that they received 70000 Cannot ſhot, and ſuſtained an incredible number of aſſaults of 60 or 70000 *Turks*. The *Arſenal* for the *Gallyes* is yet in the *Bourg*, but there reſides there only *Malteſes*, and *Mariners*, and in the Iſle of *Sengle Mariners* and *Souldiers* of Fortune.

The Iſle hath oft withſtood the fury of the *Turks*.

The great *Maſter* and the *Knights* reſide at preſent in the City of *Valetta*, which is now by much the moſt conſiderable of theſe Cities, both for its force, the advantage of its ſcituation, and the beauty of its publick and private buildings. It is built upon *Montst Sceberros*, which forms a *Languet* of Land all of a Rock; and between the Ports of *Marza Maſſetto*, and *Marza grande* commanding on all ſides, and into all parts of the one and the other Port, and its ditches to the landward, which are cut out of the Rock, which are exceeding broad, of a very great depth, ſtrongly flankt, and well fortified. The Walls are ſtrong, joyn to the Rock, and are about 60 foot high, and are well provided with *Guns*, &c. againſt any occaſion. It contains above 2000 houſes, which are for the moſt part uniform, builded of Free-ſtone; they are commonly two ſtories high, flat at top, and with *Tarraſſes*. The *Market place* is ſpacious, from whence ſeveral fair Streets do take their riſe; to every houſe there is a *Ciſtern* to preſerve water for their occaſions; beſides theſe houſes there are ſeveral ſtately Structures, as the *Great Maſters Palace*, which is a gallant Edifice, having a *Tower* which overlooketh the whole Iſland; the *Hall* or *Chamber* of *Aſſemblies* where they ſit in Council, is curiouſly adorned and painted, wherein their Fights both by Sea and Land, as well at home as abroad, are livelyreſented; and this as alſo the *Armory*, which may on a ſuddain Arm 20 or 25000 men, are in the *Great Maſters* Palace; then the Churches of St. *Paul*, and St. *John Patron of the Order*, the one the ſeat of a Biſhop, and the other of a Prior, are magnificent; likewiſe the ſeven *Alberges* of the *Knights* like ſo many Palaces, where the Commanders of the ſeven tongues treat the Cavaliers at the expence of the Order. The *Arſenal* near *Porto Reale* is as well furniſhed with all ſorts of Munition as any in Chriſtendom. Alſo the *Hoſpital* of St. *Johns* towards the Caſtle of St. *Elmo* doth merit fame, not only for its buildings which are curious, but for the entertainment there given to thoſe that fall ſick, where the *Knights* themſelves lodge when *ſick* or *wounded* to receive cure, where they are exceeding well attended, have excellent good dyet, ſerved by the *Junior Knights* in ſilver, and every friday viſited by the *Grand Maſter*, accompanied with the great Croſſes: a ſervice which was from the firſt inſtitution commanded; and thereupon called *Knights Hoſpitallers*. Here are, as *Sandys* ſaith, three *Nunneries*, one for *Virgins*, another for *Baſtards*, and the third for peniteſt *Whores*.

The reſidence of the Great Maſter.

Castle of St. Elmo.

The Castle of St. *Elmo* is at the end of the City of *Valetta* towards the Sea, and at the opening of two Ports. During the siege of *Malta* it was taken, and sackt by the *Turks*, after having wasted 18000 *Cannonshot*, given divers assaults, and lost 4000 men of their best *Militia*, among others *Dragut*, one of their most famous *Coursaiers*. The *Christians* lost 1300 men among whom many *Knights*. But this *Fort* was restored to a far better Estate than before: and is separated from the City only by a *ditch* cut likewise in the *Rocé*; on the other side, and on the point of the *Borgo* is the Fort of St. *Angelo*; and likewise above the *Borgo*, and the Isle of *Sengle*, have been made new works to hinder the *Turks* from lodging there.

Besides these three *Cities*, and the *Forts* about them, the ancient City of *Malta*, *Medina*, is in the middle of the Island, on an easie ascending hill, and in an advantagious scituation. The *Turks* assaulted it in 1551 but soon retired. The *Bishop* of the Isle hath here his residence; and near the City is yet the *Grotte* and *Chapel* of St. *Paul* where they believe he preached, and where he lay when he suffered *shipwrack*, and this place is of great account among them.

The Isle very strong and well provided for War.

All these *Cities* and *Forts* have 250 or 300 pieces of *Cannon* on their Rampart; and their *Magazins* are so well provided with *Powder*, *Shot*, *Wood*, *Buket*, *Salt-meats*, and all *Provisions*, and *Ammunition*, that they call it *Malta Flor del Mondo*, *Malta* the Flower of the World: being provided alwaies with *Ammunitions* and *Provisions* for a three years siege; yet this is to be understood, not only because of its *Fortifications*, and *Ammunitions*, but likewise because of its force, and the resolution of its *Knights*.

The Order of Knighthood first instituted.

This order of *Knighthood* according to *Sandys*, received their denomination from *John* the charitable *Patriarch* of *Alexandria*; though vowed to St. *John Baptist* as their Patron. Their first seat was the Hospital of St. *John* of *Jerusalem*, built by one *Gerrard*, at the same time when the *Europeans* had something to do in the *Holy-Land*, where they received such good success, and became so famous that they drew divers worthy persons into this society: which by Pope *Gelasius* the second, was much approved of. He saith, that one *Raymond* was the first Master of this Order, who did amplifie their Canons, and entituled himself *The poor servant of Christ, and Guardian of the Hospital in Jerusalem*; and at the allowance of one *Honorius* the second, were apparelled in black garments, signed with a *White-Cross*; this Order we have said began at *Jerusalem*, and at first meddled not but with the Government of the *Hospital* of St. *John*, and were called *Fryers Hospitallers*, or simply *Hospitallers*, as those of the *Temple Templers*; but when these *Hospitallers* were constrained to make profession both of *Hospitality* and *Arms*, they were called *Knights Hospitallers*, or *Knights* of the *Hospital* of St. *John of Jerusalem*; after the loss of *Jerusalem*, they held their Convent in the City and Fortress of *Margatt*, then in *Aicre* or *Ptolomaido*; and all the *Latine Christians* being driven from the *Holy Land*, and from *Souria*, they retired into *Cyprus*. But during their stay in *Cyprus*, they gained *Rhodes*, and established themselves there so powerfully, that they were called *Knights* of *Rhodes*. *Margaret* was taken from them in 1285. *Aicre* in 1291. little less than 200 years after *Godfrey* of *Bulloin* had Conquered the *Holy Land*, and this order began before; after the loss of *Aicre* they lived in *Cyprus* from 1291 to 1309. in which year they took, and settled in *Rhodes*, and maintained it more than 100 years, sustaining four sieges, till in 1522 *Sultan Solyman* became Master of *Rhodes*; they then retired into *Europe*, now into one place, and then into another, and in fine to *Malta*, which *Charles* the fifth gave them in 1530. with some little neighbouring Isles, as likewise the City of *Tripoly* in *Barbary*, which they could keep no longer then 1551. that place being too far engaged in the Enemies Country. These *Knights* are of divers *Nations*, and are divided into eight *Tongues*, to wit of *Provence*, of *Auvergne*, of *France*, of *Italy*, of *Arragon*, of *England*, of *Germany*, and of *Castile*; so that the three first are in *France*, and the last in *Castile*; each *Tongue* contains many *Priories*, and each *Priory* many *Commanderies*; these three *Tongues* which are in *France*, have near 300 *Commanderies*. The other five *Tongues* which are in *Italy*, *Arragon*, *England*, *Germany*, and *Castile*, made near 400. but

These Knights oft forced to remove their habitations.

but there are no more in *England*, the Kings of *England* when they confiscated the goods of the Church, having likewise seized the *goods* and *Commanderies* of the *Knights* of *Malta*; and in *Germany* a part of these *Commanderies* being fallen into the hands of *Lutherans*, and *Calvinists*, serve no longer: so that at present *France* alone furnishes little less than half the *Commanderies* of *Malta*. England.

And it hath been observed that from the first establishment of this *Order*, unto this very present, of 57 great *Masters*, there hath been 37 *French*, only 4 or 5 *Italians*, 7, or 8, *Spaniards*, and 11 whose Nation and Tongue the History could not observe; but apparently the most part were *French*, since this *Order* began by the *French*; of these 34 known, 12 were in the *Holy-Land*, and in *Souria*, 13 in *Rhodes*, and 9 in *Malta* unto Father *Paul* of *Lascaris*; of every one there is a *Grand Prior*, who lives in great reputation in his Country, who orders the affairs of their *Order*; and for *England*, St. *Johns* by *Clarkenwell* in times past was a mansion of the *Grand-Prior*. There are several Councels among these *Knights*, as that for deciding of differences which may happen among them; the Councel of *War*, the General *Chapter*, which may augment, or moderate the Authority of the great *Master*, renew the Ordinances and Government of the *Religion*, or their Order, and which is held every five years. Their Government.

The Ceremonies used in *Knighting* are these which follow; first being cloathed in a long loose garment, he goeth to the *Altar* with a *Taper* in his hand of *White Wax*, where he kneeleth down, and desires the Order of the Ordinary; then in the name of the *Father*, the *Son*, and the *Holy Ghost*, he receiveth a sword, therewith to defend the *Catholick* Church, to repulse and vanquish the enemy, to expose himself to death for the Faith, to relieve the oppressed, and all by the power of the Cross, which is designed by the cross hilt, then is he girt with a belt, and thrice struck on his shoulders with his sword, which signifies that he is cheerfully to suffer all afflictions for the honour of *Christ*: who taking it of him, flourisheth it aloft three times, as a provokement to the adversary, and then sheaths it again. Then he that gives him *Knighthood*, doth exhort him to get true honour by laudable and couragious *actions*, to be vigilant in the *Faith*, &c. then two other *Knights* of the said *Order*, do put on a pair of gilt *spurs*, which doth signifie that he should do no ignoble action for gain, and to value *Gold* no more than dirt; and thus with a *Taper* in his hand he goes to *Mass*, where he is excited to *Hospitality*, to works of *Piety*, redemption of *Christian Captives*, &c. Also he is asked whether he is resolved to live among them, to quit the Authority of secular Magistracy, to revenge their injuries, whether he be of any profession, whether a *freeman*, joyned in *Matrimony*, or vowed to another *Order*; and having answered thereunto, upon the receipt of the Sacrament he vows in this order: *I vow to the Almighty God, to the Virgin Mary his immaculate Mother, and to St. John Baptist, perpetually by the help of God, to be truly obedient to all my superiours, appointed by God and this Order, to live without any thing of mine own, and withal to live chastly*; which done, he is received as a member of them; besides other prayers, they are commanded to say daily 150 *Pater-nosters*, for such as have been slaves in their *Wars*. None are admitted to this Order, but those who can prove their Gentility for six descents, which is examined and approved by the Knights of their Nation; they remain a year upon approbation, before they are admitted into the Society, where they come very young, that they may the sooner come to a *Commendum* at home. Their *habit*, as we noted before, are black Cloaks, with large white Crosses of fine linnen set on the shoulder place; but in time of *War* they wear Mandilions of Crimson with the said White Crosses set behind and before, and about their necks they wear a Riband with a branch of the Cross. If one of these *Knights* be convicted of a Capital offence, he is in the first place publickly degraded in the Church of St. *John*, where he received his *Knighthood*; also strangled, or thrown into the Sea. There are of these *Knights* 1000, whereof 500 alwaies reside in this Iland, the other 500 dispersed throughout *Christendom*, at their several *Seminaries*, which upon The Ceremonies performed in making these Knights.

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any summons are to make their personal appearance; every Nation do feed by themselves in their several *Alberges*, and sit at table like *Friers*. Of these there be 16 of great authority (*Councellors of State*,) called the *Great Crosses*, out of whom the Officers of their Order, as the *Marshal*, the *Admiral*, the *Chancellor*, the Master of the *Hospital*, &c. are chosen, and who together with the *Master* punishes the trangressors as aforesaid. Now when the Great *Master* hapneth to die, they suffer no vessel to go out of the Land, until another be chosen, lest the *Pope* should intrude on their election, which is thus performed, The several *Seminaries* nominate two *Knights*, and two also are nominated for the *English*; and these 16 from among themselves chuse 8, and these 8 chuse a *Knight*, a *Priest*, and a *Frier servant*, and they three out of the 16 *great Crosses*, elect the Great *Master*, who being thus chosen, is stiled *The most illustrious and most reverend Prince*, the Lord Frier *A. W.* great Master *of the* Hospital of St. *John* of *Jerusalem*, Prince of *Malta* and *Goza*. The Great *Master* being thus chosen, and received with these and many other noble Ceremonies, hath a great power over all the Commanders and Officers of the *Order*; he assembles the *Councels*, calls the Officers of *Justice*, who exercise in his Name, and execute under his Seal; he *Coins money*, disposes of *Treasure*, *imprisons*, and sentences the *faulty*, pardons the *Condemned*, creates Knights of Grace, confers even to the eighth dignity of the Great *Cross*, &c. In the *Councel* and at *Table* he sits under a Canopy of State, and is bravely attended, and served by *Knights* according to their Order, and without Fee, and doth all the acts of Soveraignty, and hath a great revenue to support his Dignity.

Their possessions.

Besides *Malta*, the Great *Master*, and the *Knights* of *Malta* possess the Isles of *Cumin*, and *Cumiot* which are very little; *Forfola* or *Furfura*, which is but a Rock, (and when they would jest with any among them, or play on some young *Knight*, they call him *Prince* of *Forfola*,) The Isle of *Goza* of which the Great *Master* takes the title of *Prince*; this is the *Gaulos* or *Gaudos* of the Antients; and to this day called *Gausditch* by its Inhabitants, and *Gausdosch* by the *Moors*. It is about 6 or 8000 paces from *Malta*, and about 20000 paces in Circuit, its form approaching to an Oval. Its *Fortress* is on an uncommanded hill, and the Town beneath it; all the Isle though mountainous is peopled not by *Villages*, but by *Hamlets*, and *houses* scattered here and there, the Air being very good, and the land watered with many streams. It may assist *Malta* with its *Corn*, *Fruits*, *Muttons*, *Hares*, *Fowl*, *Honey*, &c. they take here excellent *Faulcons*; and that which is presented to the *Vice-Roy* of *Sicily* in the name of the Great *Master* of *Malta*, and for *Malta*, likewise those which are presented to the King of *France*, are for the most part taken here.

This Isle of *GOZA* was taken, and pillaged by the *Turks* in 1551, who carried near 4000 souls Captives, there remaining almost as many. At present it is restored, and the Castle well fortified, and all the approaches of the Isle defended with some Forts. Its *Governour* is one of the *Knights* whom the Grand *Master* sends from three years to three years; the Inhabitants speak *Arab*, or *Moresco*, as at *Malta*, have the same manners, and are all *Catholicks*.

Likewise *LAMPEDOZA*, and *LINOSA* or *Limosa* distant from *Malta*, about 10000 paces, belong to these *Knights*, but both are esteemed desart. West of them and towards the *Cape* of *Bona* is the Isle of *Pantaleria*, which belongs not to the *Knights*, but to the *Catholick King*; but because we have not remembred it before, we will here speak a word of it. Its Circuit is about 30000 paces. Its City, and Port regard *Sicily* towards the North; and *Malta* towards the East. Above the City is a Castle or Rock, which nature hath made craggy, and inaccessible on all sides. The Land bears little *Corn*, quantity of *Pulse*, and *Kitchin-herbs*; produceth abundance of *Cotton*, *Annifeeds*, *Figgs*, *Melons*, *Capers*, and excellent *Grapes*, &c. The *manners*, *habit* and *tongue* of the *Islanders* retain much of the *Moors*, yet they are all *Catholicks* like to *Malta*, and under the *Vice-Roy of Sicily*. In the midst of the Island, and in a *Cave* is a *Pitt*, which exhales continually an obscure vapour, which spreading it self on all sides on the *Rock*, dissolves into water, and distills with such abundance, that

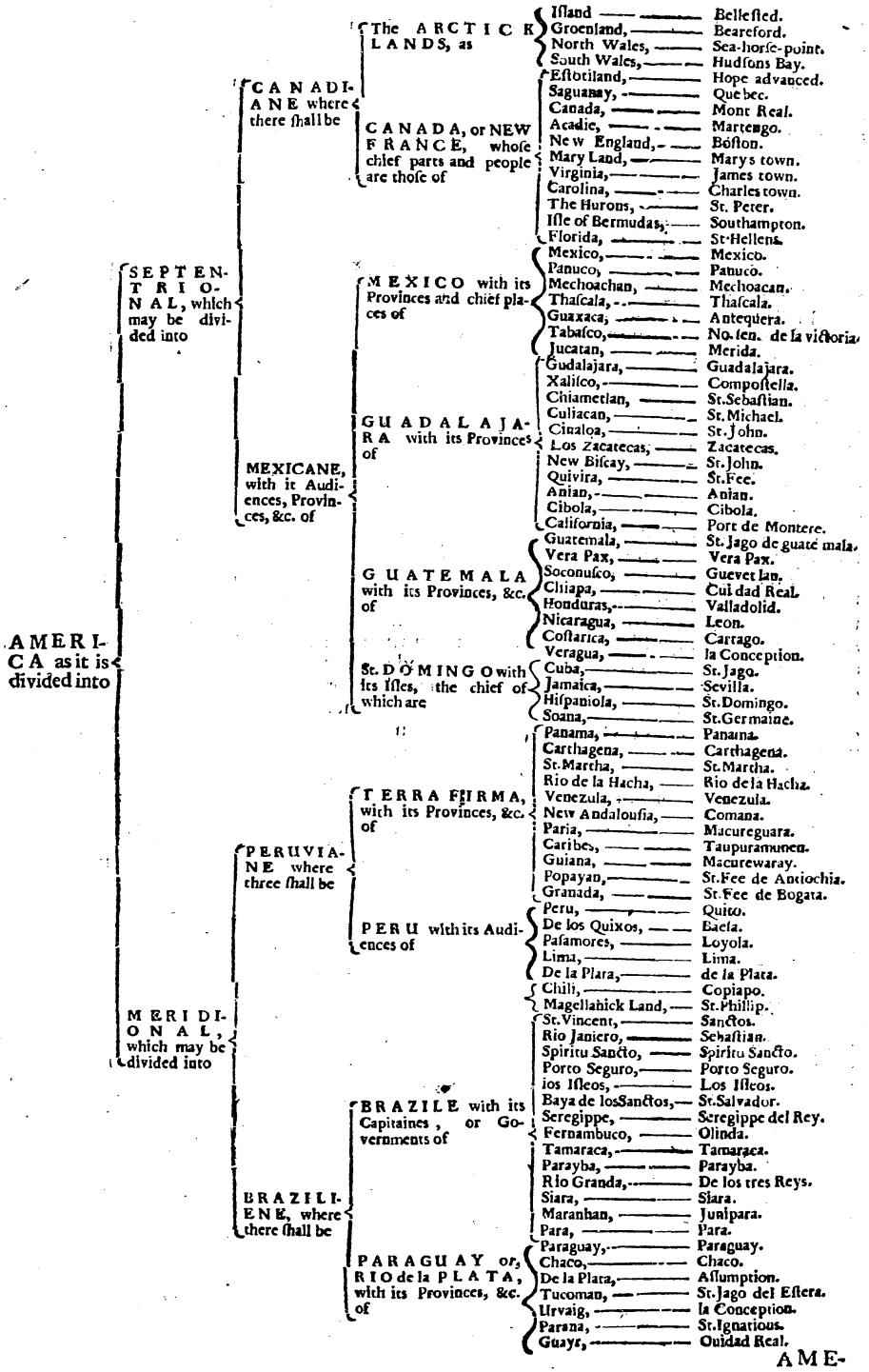
that it furnisheth all the Inhabitants have need of not only for their drink, and other uses, but for their *Beasts*; nor is there any other fresh water in the Isle, the Land being dry, reddish, and so hot that a naked foot can scarce suffer it.

For the rest the *Knights* of *Malta* are alwaies in Arms against the *Moors*, *Mahometans*, and all the *Pyrates* of the *Mediterranean Sea*, and by their expeditions with those few *Gallies*, they have delivered out of their hands a great number of *Christian Captives*, reduced many *Mahometans* to the *Christian Faith*, maintain their Arms in good reputation, and on all occasions which present themselves, whether of their own, or with other *Princes* of *Christendom*, they freely employ and venture both their *lives* and *goods* in favour of *Christians* in general and particular. Knights alwaies in Wars.

But it is time to finish *Africa*, and to say that if we would have believed certain Authors among the Antients, this *Africa* had been represented to us with unsupportable *heats*, unsufferable *droughs*, fierce and cruel Beasts, perfidious Men, horrible and afrightful Monsters, whereas time, which daily discovers things unknown to the Antients, hath made us see that the greatest *heats* of *Africa* have some *refreshments*; that the driest *sands* have some *wells*, some *waters*; that the vastest *solitudes* have some *green fields*, some *Fruits*; that the Beasts are not so dangerous, but that Men may defend themselves from their fury; nor the Men so *faithless*, but that they have *Commerce* and *Society* among themselves, as also with *Strangers*; that their *Dragons*, *Serpents*, *Griffons*, &c. are for the most part imaginary. And moreover, the generosity of its *Lyons*, the docility of its *Camels*, the Feathers of its *Estriches*, the odour of its *Civets*, the swiftness of its *Barbes*, the agility of its *wild Asses*, the greatness of its *Elephants*, the strength of its *Eagles*, the diversity of its *Parroquets*, and the wantonness of its little *Monkeys*, &c. recompence the mischief which other Beasts may do. And though there are as yet some people fierce, and Man-eaters, the most part of the others are very ingenious and tractable. The *Egyptians* have long since sufficiently made known their cunning in *Sciences*, *Arts*, and *Arms*, so have the *Carthaginians*, &c. and the Antients esteemed the *Æthiopians* the most innocent and justest men in the world, believing the *Gods* sometimes banqueted with them. Besides there are many particulars worthy of observation in *Africa*; what City was ever fairer, or more magnificent than *THEBES*, in the higher *Egypt*? Than *MEMPHIS* in the middle? Or *ALEXANDRIA* in the lower? Out of *Egypt*, what City was ever richer, more powerful, or more proud than *CARTHAGE*, except *Rome*? And at present *FEZ* is so splendid, that there is no City in *Europe* to be compared with it; though many believe it not to compare to *CAIRO* in *Egypt*: Among the Seven Wonders of the World, some place three in *Egypt* alone, the *Statue* of *MEMNON* at *Thebes*, the *PYRAMIDES* near *Memphis*, and the *PHARUS* of *Alexandria*.

Not only these beautiful Works, and fair Cities, not only the infinite quantity of *Gold*, and other *Metals*, *Precious stones*, *Grains*, *Fruits*, *Spices*, *Druggs*, *Wines*, *Oyls*, *Sugars*, *Honey*, *Wax*, *Cordovants*, *Amber*, *Ambergreece*, *Elephants-teeth*, *Estriches-feathers*, *Saffron*, *Coral*, *Civet*, *Musk*, *Incense*, *Coffee*, *Capers*, *Olives*, *Ivory*, *Silk*, *Cotton*, *Flax*, &c. of which they make *Velvets*, *Silks*, *Damasks*, &c. a thousand several *Manufactures* which are found there, ought to make us account *Africa* very considerable: but its extent which is little less than *Asia*, twice as great as *Europe*. Its position is in the Southern part of our Continent; the South is esteemed after the East, before either North or West: It was the portion of *Cham*, second Son to *Noah*, which may make us judge it the second in greatness and goodness. Its first *Monarchies* have been known before those of *Europe*; some will say before those of *Asia*. *Arts*, *Sciences*, *Letters*, and *Laws*, have been in great reputation here, before they passed into *Greece* or the rest of *Europe*. Commodities of *Africa*.

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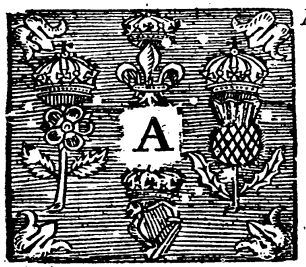
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A New Mapp of
AMERICA
PTENTRIONALE
Fitted by Monsieur Sanson Geographer to
French King, and Rendred into English,
Illustrated by Richard Blome By his
Majesties Especiall Command.
London
Printed for Richard Blome
To the Worship
Jeffreys of the
Shire, and of the Citty of
This Map is humbly Ded
Richard Blome
AMERICA
SEPTENTRIONALE
Baffins Bay
Artick Circle
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CALLAPIA
GLACICKE SEA
Hudsons Streights
Gulph of Hudson or Hudsons Bay
New South Walles
Estotiland
Terre de Labora
New Britanie
CANADA
Gulph of St Laurence
Newfound Land
Sague nay
Canada
Acadia
Algomiquins
Iroquois
FRANCE
NEW MEXICO
Cibola
Apaches of Navajo
Apaches of Xila
Apaches Vaqueros
Nueva Mexico
Quivira
New Grenada
Culiacan
New Biscay
Zacatecas
Panuco
GULPH OF MEXICO
FLORIDA
VIRGINIA
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AMERICA.



MERICA is a Continent different from that wherein we inhabit, or which we call Ours; for the ſurface of the *Globe* being deſcribed into two *Hemiſpheres*, divided by the firſt *Meridian*; *America* is in that *Hemiſphere* which is oppoſite to ours.

The Voyages of *Columbus*, *Cabral*, and *Veſputius* into *America*.

In 1492, and ſome ſucceeding years, *Chriſtopher Columbus*, a *Genoueſe*, for and in the name of *Ferdinand* King of *Arragon*, and *Iſabella* Queen of *Caſtile*, made divers Voyages into the Iſlands which are before this Continent, and diſcovered part of the Coaſts of the Continent. In 1501 *Alvares Cabral*, for and in the name of *Emanuel* King of *Portugal*, Navigating along the Coaſt of *Africa*, on a Voyage to the *Eaſt-Indies*, ſome Eaſtern Winds carried him ſo far to the Weſt, that he diſcovered the Coaſt of a main Land, which was afterwards called *Brazil*; where a little after *Americus Veſputius*, a *Florentine*, was expreſly ſent with a particular charge to diſcover this Country: In which he was ſo happy, that his name was given to that part of the Coaſt which he diſcovered; and in fine, to the whole Continent. From theſe Voyages of *Columbus*, *Cabral*, and *Americus Veſputius*, the *Spaniards* pretend to be the firſt who diſcovered, or cauſed to be diſcovered, and gave knowledge of this Continent.

America known by the Ancients.

The *Greeks* and *Latins* have given fair teſtimonies, that the Ancients have had ſome knowledge of *America*. *Plato* in his *Timæus*, and in his *Critias*, calls it the *Atlantick Iſle*, and eſteems it as great or greater than *Aſia* and *Africa* together. It ſeems that *Plato* (or *Solon*, or the Prieſt of *Egypt*, &c.) had knowledge of the greatneſs, ſituation, and form of the two parts of *America*; ſo well they agree to *Aſia* and *Africa*: the Northern *America* with *Aſia*, the Southern with *Africa*.

America bounded.

AMERICA is almoſt divided into two parts, of which one is between the *Equator* and the North; the other, in regard of us, is towards the South, and part under the *Equator*.

After *Plato*, *Theopompus*, either in his Treatiſe of *Wonders*, or in his *Hiſtory*, makes mention of another Continent beſides ours, and touches divers particulars: Among others, that its greatneſs is ſo vaſt that it was not wholly known; that its Men were greater, ſtronger, and lived longer than we; that

they had *Gold* and *Silver* in ſo great quantity, that they made leſs account of it than we do of *Iron*: That they had a great number of Cities, and among others two very great ones, and of Cuſtoms much different; the principal aim of the one being to War, and the other to Religion; which I eſteem agreeing with *Cuſco* and *Mexico*, which we have ſo found when firſt known to us; *Mexico* more inclined to War, and *Cuſco* to the adoration of its Divinities.

AMERICA having been known to the Ancients under divers names, and all theſe names preſerved till now, there remains to know from whence the People of this *America* ſhould deſcend, whether from *Europe*, *Aſia*, or *Africa*.

It is to be believed, that the firſt of our Continent which were carried into *America*, were ſo either by chance or by force; the Eaſtern Winds having driven them from the Coaſt of *Africa* or *Libya*, where they ſailed, and carried them ſo far into the Weſt that they have found theſe Lands.

How *America* became firſt peopled by thoſe of our Continent.

And it is likewiſe to be believed, that of thoſe which have been ſo carried, ſome have been unfurniſhed of Victuals for ſo long and impremeditated a Voyage, and ſo have been conſtrained to eat ſome among them to preſerve the reſt, as others ſince have done. And thus *America* may have been peopled by divers Nations, and at divers times, and according to the Parts from whence they were, according to the hunger and neceſſity they ſuffered upon the Sea, they became more or leſs barbarous. And that ſome have been carried by chance or force from our Continent to the other, we may judge both by Ancient and Modern Hiſtories. *Diodorus Siculus* makes mention of certain *Phœnicians*, (*Ariſtotle* had ſaid almoſt the ſame before of the *Carthaginians*) who ſayling along the Coaſt of *Africa* or *Libya*, were carried far into the *Occidental* Ocean, where they found a very great Iſle, diſtant from our Main Land many days ſail, and the Country as beautiful as that of *Toſcany*, ſo that ſome of *Carthage* would here have ſettled; but that the Republick prohibited any more to paſs, fearing leſt it ſhould weaken their Eſtate, commanding thoſe which were paſſed to retire, and aboliſhing as much as they could the knowledge of their Country; yet with deſign to retire thither, if they ſhould become ſo unfortunate as to fall under the *Romans* ſubjection. Thoſe particulars which Authors apply to this Iſle, agree better with *America Meridionalis*, which is almoſt an Iſle, than with the Iſles on this ſide it.

Beſides theſe Authorities of the Ancients, the accident which arrived to *Alonzo Zanches de Guelva*, in *Adalouſie*, or whatever other Pilot he was, who landing at the *Madera*, where was *Chriſtopher Columbus*, who told him how he had been carried by force into the Weſt, which he had diſcovered, and how he had returned: And the like accident which happened to *Cabral* in 1501, (as we have already ſaid) makes it ſufficiently appear how the ſame thing may have hapned to other Saylors; and particularly to thoſe Nations on this ſide, which lie upon the Ocean, as the *Moors*, *Spaniards*, *Celtes*, and *Bretons*, &c. And thoſe who traded on the Ocean, as the *Phœnicians*, *Carthaginians*, and *Tyrrhenians*; and this is the more eaſily, becauſe between the two *Tropicks*, the Eaſtern Briſes or Winds do for the moſt part blow, and eaſily carry, nay ſometimes force Ships from Eaſt to Weſt. It is true, that it is hard to turn from Eaſt to Weſt by the ſame courſe: And poſſibly from theſe two ſo different things the Poet took occaſion to ſay,

——Facilis deſcenſus Averni;
Sed revocare gradum ſuperaſque revertere ad auras,
Hoc opus, hic labor eſt.

Underſtanding it eaſy to deſcend from our Continent into the other, which we eſteem the Lower *Hemiſphere*; but hard to return from that to ours, which we eſteem the Higher: the means to return with leaſt difficulty not being found out but with time; and after having (and that at divers times) eſſayed all courſes, which is, by diſingaging themſelves from between the *Tropicks*, which ſome attribute to *Pedrarias de Avila*, who about the year 1514 began to give Rules

Rules for the time of parting; and the courſe was to be held, to go from our Continent to the other: and likewiſe the time and courſe to return from the others to ours.

Since ſome have paſſed from this world of our Continent, and by our Coaſt into the other Continent: It may likewiſe be believed, that others have paſſed from the other Coaſt, that is to ſay, from *Aſia*. Whence it comes that ſome believe, that the Inhabitants of *Peru* and *Mexico*, deſcend rather from the *Chinois* and *Japanois*, than from the *Europeans* or *Africans*.

But this ſubject will be too tedious to handle, let us therefore content our ſelves to ſpeak a word or two of this *America* in general, before we deſcend to particulars.

AMERICA conſidered in its whole Body, is part on this ſide, and part beyond the *Equator*: It ſtretches it ſelf to near 54 degrees beyond, and extends it ſelf to 80 or more on this ſide, which are more than 130 degrees of *Latitude*; our Continent not having much more than 100: But the breadth of *America* is very unequal, this Continent being compoſed of two great *Peninſula's*, almoſt divided the one from the other by the *Equator*; its breadth here is not in ſome places of above 30, 40, or 50 Leagues, though in other places 1000 or 1200, and poſſibly much more in *America Septentrionalis*, if the Land of *Jeſſo* be contiguous to it. The bigneſs of *America*.

This Land of *JESSO*, or *TEDSO*, is between *America* and *Aſia*, and we know not yet whether it joyn upon *Aſia* or *America*, or make a Piece apart; if it be divided both from the one and the other, and that *New Denmark* and *Greenland* are upon it, as there is much reaſon to believe, it makes a Piece not leſs than the three parts of our Continent, or of the two of the other; but poſſibly it makes a third part of the other Continent: Let us proceed to the two parts of *America*, as they are eſteemed and known at preſent. The ſituation and Land of *Jeſſo*.

AMERICA SEPTENTRIONALIS.

AMERICA SEPTENTRIONALIS, is that part of *America* which is not only the moſt Northern of the two *America's*, but likewiſe doth all lie between the *Equator* and the North; it extends it ſelf from the 8*th* or 10*th* degree of *Latitude*, even beyond the *Artick Circle*; and if we comprehend the *Artick Lands* with *America*, it advances at leaſt to the 88*th degree* of *Latitude*, which are 70 *degrees* for its height from South to North. Its length from Weſt to Eaſt poſſeſſes near all the *degrees* of *Longitude* of the other *Hemiſphere*, to wit, from about the 180*th*, where ours end, even beyond the 300*th*, which is the end of the other. The length and breadth of *America Septentrionalis*.

The *Mer del Nort* is on the Eaſt of it, the *Mer del Sud* on its Weſt; towards the North its bounds are unknown, there being Land found even beyond the 80*th degree* of *Latitude*, with appearance that they extend yet farther towards the *Pole*: ſo that we cannot judge to what *degree*, or whether it be contiguous to *New Denmark* and *Greenland*, or whether it be in Iſlands; and on the South it makes *America Meridionalis*. Its bounds.

We will divide this *America Septentrionalis* into *Canadiana* and *Mexicana*. Under the name of *Canadiana* is underſtood that part of *America* which is about *Canada*, where the *Engliſh*, *French*, *Hollanders*, *Danes* and *Swedes* have divers Colonies: And under the name of *Mexicana*, that part of *America* which the King of *Spain* doth almoſt alone poſſeſs, and where he hath eſtabliſhed abundance of Colonies, ſubdividing *Canadiana* into the *Artick Lands*, and *Canada* or *New France*; and *Mexicana* into *New Mexico*, and *Mexico* or *New Spain*. Its diviſion, according to Monſ. *Sanſon*.

Of theſe four parts, *Mexico* or *New Spain* is the moſt advanced towards the *Equator* and the South, the *Artick Lands* towards the North, the other two parts reſt in the middle; *Canada* or *New France* towards the Eaſt, and *New Mexico* towards the Weſt. The firſt is under and about the *Tropick* of *Cancer*, Its ſituation.

the second under or about the *Polar Circle*, the two others lie from 25 or 30 unto 60 *degrees* of *Latitude*; so that the first is within or very near the *Torrid Zone*, the second within or near the *Frozen Zone*, and the two in the middle quite in the *Temperate Zone*.

The first and most Southernly ought to be called *Mexico* or *New Spain*; *Mexico*, because *Mexico* is by much the faireſt City, and the Dominion of the ancient Kings of *Mexico* extended over the beſt part of it: *New Spain*, becauſe the King of *Spain* poſſeſſes near all of it, having eſtabliſhed a great many Colonies; a *Vice-Roy*, divers *Archbiſhops*, *Biſhops*, *Audiences*, and *Governments*: the Natives of the Country that are left, being almoſt all Tributaries to him.

Arctick Lands. The ſecond may be called the *Arctick Lands*, becauſe it approaches the *Arctick Pole*, and is for the moſt part comprehended within the *Arctick Circle*: theſe are but little known. We underſtand well that they are divided by ſome *Streights*, and that it apparently conſiſts in many and divers Iſles, which hath been the cauſe a Paſſage hath been ſought to go this way to *China* and the *Eaſt-Indies*. The Natives do here enjoy a full and entire liberty, the People of *Europe* not thinking it worth their pains to eſtabliſh Colonies.

Canada, or *New France.* Of the two middle parts, the moſt Eaſternly and neareſt to *Europe*, ought to be eſteemed under the general name of *Canada* or *New France*: of *Canada*, becauſe in that particular Region the *Europeans* firſt Landed; of *New France*, becauſe the *French* did firſt eſtabliſh themſelves here before any other *Europeans*. The moſt Weſtern and fartheſt from *Europe* may in general be called *New Mexico*, becauſe the *Spaniards* of *Mexico* or *New Spain* diſcovered it not till after they had been ſometime ſettled in this other.

Of theſe four parts of *America Septentrionalis*, to wit, *Mexico* or *New Spain*, *New Mexico*, *Canada* or *New France*, and *America Arctica*: *New Spain* is waſhed by *Mer del Nort*, and *Mer del Sud*: *America Arctica* likewiſe by both Seas; *New France* only by *Mer del Nort*, and *New Mexico* only by *Mer del Sud*.

Theſe four great parts are ſubdivided into many leſs, which we call *Regions*, *Peoples*, *Provinces*, &c. We will obſerve the chief of them the moſt clearly and ſuccinctly as poſſibly we can; but becauſe *New Spain* touches on *America Meridionalis*, we will begin our *America Septentrionalis* by the *Arctick* and *New France*; ſo proceeding to the one and the other *Mexico*, that we may paſs in order to the parts bordering on *America Meridionalis*. And likewiſe, becauſe the *Arctick Lands* of *America* are very little known, and that we cannot judge to make a particular diſcourſe of them, we will content our ſelves to ſpeak ſomething here before we paſs to the other parts.

That part of *America* which is compriſed for the moſt part between the *Arctick Pole* and *Circle*, or which at moſt deſcends unto the *60th* or *55th degree* of *Latitude*, is named according to our method, *America Arctica*. In all this part we know only ſome *Coaſts* and *Gulphs* of that which is moſt towards *Europe*: There we have the Iſles of *Iſeland* and *Groenland*, we might likewiſe put *Shetland*, which we know not whether Iſles or parts of the New Continent, as we are likewiſe ignorant of all the reſt of *America Arctica*.

Iſland. *ISELAND*, ſubject to the King of *Denmark*, is 150 Leagues long, and little leſs than 100 broad. Its Inhabitants are very luſty, and live above an 100 years; they ſcarce addict themſelves to any thing but the feeding of their *Beaſts*, and *Fiſhing*. The Coaſt toward the South is much better, and beſt inhabited. The Governour of the Iſland reſides at *Belleſted* on the Coaſt, *Scalhold* and *Holdon*, within Land, are *Biſhops Sees*. The Mountains of *Hecla* and *Helga* often vomit Fire, though the Circle of the *Pole Arctick* paſſes over this Iſland, and incloſes part of it in the *Frozen Zone*, leaving the other in the *Temperate*, if that can poſſibly be, which lies ſo contiguous and near to the *Frozen*; yet doth it not hinder them from enjoying many rare things in their *Mountains*, in their *Lands*, in their *Fountains* and *Rivers*, in their *Beaſts*, and in their *Fiſh*. *Iſeland* doth (in my Judgment) apparently anſwer to the *Thule* of the Ancients, though ſome Authors of the Country maintain the contrary.

Its Inhabitants

Belleſted, Scalhold, and Holdon, its chief Towns.

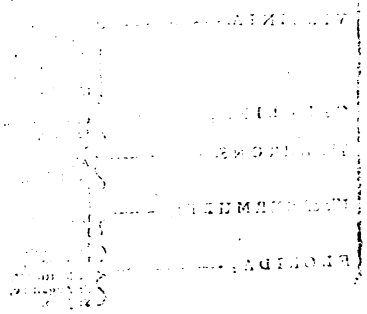
GROEN-

GROENLANDT, that is, *GREENLAND*, hath been long known to thoſe of *Iſeland* and *Norway*. Account is made that one *Torwald*, and his Son *Errick* of *Norway*, paſſed into *Iſeland* about the year 800; and that from *Iſeland*, *Errick* and his Son *Lieffe*, paſſed a little after into *Groenlandt*, where they eſtabliſhed ſome Colonies of *Norwegians*: And the ſame Hiſtory ſaith, that *Lieffe* had ſome Combats with the Ancient *Sekreglingres* and Native Inhabitants of the Country, and that thoſe of *Norway* held but a ſmall part in the Eaſt Coaſt of *Groenlandt*, the *Sekreglingres* keeping the reſt within the Country; and that what the *Norwegians* poſſeſſed and knew in *Groenlandt*, was not the hundreth part; but that there were divers People, governed by ſeveral Lords, of which the *Norwegians* had no knowledge. *Groenlandt*, or *Greenland.*

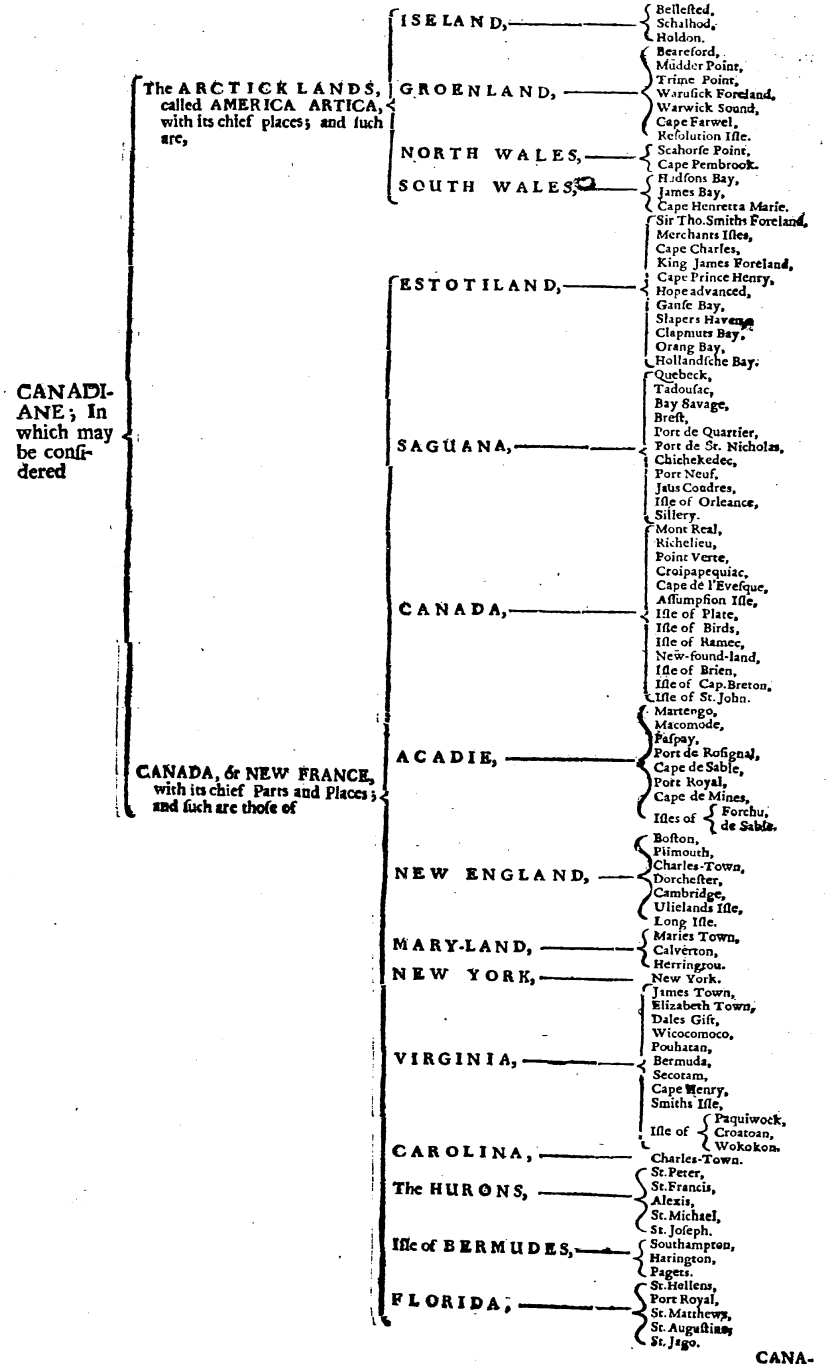
They ſay, that in ſeveral parts of *Groenlandt* there are Lands which bear as good *Wheat* as any Ground in the World; and *Cheſtnuts* ſo large, that their Kernels are as big as *Apples*; that the Mountains yield *Marble* of all ſorts of colours; that the *Graſs* for Paſtures is good, and feeds quantities of great and ſmall Cattle; that there are *Horſes*, *Stags*, *Wolves*, *Foxes*, Black and White *Bears*, *Beavers*, *Martles*, &c. That the *Sea* is full of great Fiſhes, as *Sea-Wolves*, *Dogs*, and *Calves*, but above all of *Whales*; that the *white Bears* live more on the Sea than on the Land; and that as the Black ones feed only on Fleſh, the White ones do on Fiſh, and are eſpecially greedy of *little Whales*, which cauſes a great Antipathy between them and *Whales*, who purſue them wherever they can ſcent them: That their Fiſh *Marhval* carrieth a *Tooth* or *Horn* ſo ſtrong and long, that it fights againſt and pierces the *Whale*, as the *Rhinoceros* does the *Elephant*: and they aſſure us, that the Horn is of the ſame greatneſs, form, and matter, and hath the ſame properties as thoſe which we here eſteem in the *Unicorns*. Its Fertility. The *Marhval*, a ſtrange kind of Fiſh.

The *Norwegians* and *Danes*, who ſometime ſince have paſſed into *Groenlandt*, ſay, that the Language of its Inhabitants is ſo different from that of *Norway* or *Denmark*, that there is little appearance they could deſcend either from the one or the other; and that if formerly there have been any Colonies of *Norwegians*, they are quite extinct. In 1636 the *Danes* which went thither to Trade, demanded by ſigns, if beyond that ridge of Mountains there were any Men; the *Savages* made them to underſtand, they were innumerable, higher, and ſtronger than they; and that they uſed great *Bows* and *Arrows*, and would not have any Commerce, nor ſuffer the ſight of Strangers. The Habits of thoſe with whom the *Danes* traded (ſome of which they brought into *Denmark*) were of Skins of *wild Beaſts*, their *Shirts* of the Entrails of *Fiſh*, and their *Waſtcoats* of the Skins of *Birds* with their Feathers. Its Inhabitants

Theſe ſame Relations make mention of an Old and New *Groenlandt*; this deſcending towards the South, the other mounting towards the North; but that ſome years ſince the North Seas have been ſo loaden with *Ice*, that the firſt ones not being melted before Winter, and the other having continued from time to time, to add to them, and lie in heaps one upon the other, the *Sun* in the end hath not had power to break them, and in ſucceſſion of time this way hath been ſtopt up, and the communication of *Iſeland* with Old *Groenlandt* loſt.



CANA-



CANA-

CANADA, OR New France.

UNder the name of *CANADA*, or *New France*, we eſteem that which is on both ſides the great River of *Canada* or *St. Laurence*, with the Iſles that are before its Mouth, unto, and ſo far as this River is known; and from the Gulphs and Streights of *Davis* and *Hudſon*, unto *New Spain* or *Mexico*. In this extent we have the Iſles of *New-found-land*, *Terra di Librador*, *Canada*, which communicates its name to the reſt, *Acadia*, *Saguenay*, the *Irocois*, the *Hurons*, the *Algonquins*, with about a hundred other ſorts of people, whoſe names are known.

New-found-land.

The Iſles of *NEW-FOUND-LAND*, or according to the *Biſcains*, of *Bacallaos*, that is, of *God-fiſh*, are ſo called by reaſon of theſe Fiſhes here found in ſuch great quantity, that ſometimes they ſeem to hinder the ſayling of Ships; in like manner are they found in the Gulph or Bay of *St. Laurence*. Beſides the *God-fiſh* here are other ſorts of Fiſh in great plenty, as *Thornback*, *Ling*, *Salmons*, *Oyſters*, *&c.*

The greateſt of theſe Iſles, and which commonly takes the name of *New-found-land* is 4 or 5 Leagues circuit. It is ſcituate betwixt the degrees of 46 and 53 of *Northern Latitude*, and is ſevered from the Continent of *America* by an Arm of the Sea, and is diſtant from *England* about 600 Leagues. A Country ill-inhabited towards the Eaſt and South, the Inhabitants being retired farther within Land; but the *Engliſh* have of late ſettled ſome Colonies to maintain their Fiſhing-Trade. The Natives are of a reaſonable good Stature, and well proportioned; but full-ey'd, broad-faced, beardleſs, and of an *Oker* complexion, not over ingenious; their Houſes are very mean, and their Apparel and Furniture worſe. The Country being for the generality reputed fertil, if well cultivated, and would yield good Grains; is enriched by Nature with plenty of *Fiſh*, *Fowl*, and *wild Beaſts*, and is bleſt with a wholſom Air, though the rigour of the Winter ſeaſon, and the exceſs of Heats in Summer do ſomething detract from its due praiſe.

Its Inhabitants.

Eaſt of *New-found-land* is a great Bank, a thing as remarkable as any in all *Canada*. This Bank is much different from thoſe which are covered with Water when the Sea is high; uncovered and dry on an Ebb: Saylors muſt ſhun ſuch Banks like death. This, which we now ſpeak of, is like a Country overflown, always covered with the Sea, and having at leaſt 20, 30, or 40 Fathom water, for the depth is unequal. Off from this Bank, on all ſides, the Sea is no leſs than 200 Fathom deep; and yet this Bank is 200 Leagues long, 20, 25, and ſometimes 50 broad. It is on this Bank that the *New-found-landers*, (that is, thoſe Ships that go to fiſh for *Cods* of *New-found-land*) do for the moſt part ſtop and make their freight.

About

About this great Bank, and more towards the Main Land than the Ocean, there are some others much less, but of the same nature. It is almost incredible how many Nations, and of each how many Sail of Ships go yearly to fish for these *Cods*, with the prodigious quantity they take; a Man being able to take 100 of them in the space of an hour. They fish with Hooks, which are no sooner thrown into the Sea, but the greedy Fish snapping the Bait is taken by the Hook, and drawn on Ship-board they lay him presently on a Plank; one cuts off his head, another guts it and takes out its biggest bones, another salts and barrels it, &c. Which being thus ordered, is hence transported by the *English* and other *European* Nations into all parts of *Europe*, as also into the other three parts of the World. They Fish only in the day time, the *Cod* (as they say) not biting in the night; nor doth this Fishing last all Seasons, but begins a little before Summer, and ends with *September*: In Winter the Fish retires to the bottom of the deep Sea, where Storms and Tempests have no power.

The manner of Fishing.

Near *New-found-land* there is another kind of fishing for the same Fish, which they call *dried Fish*, as the other *green Fish*. The Ships retire into some Port, and every Morning send forth their *Shallops*, one, two or three Leagues into the Sea, which sail not to have their load by Noon, or a little after: They bring them to Land, lay them on Tables or Planks, and order it as the other; but after the Fish hath been some days in salt, they take it forth, exposing it to the Air and Wind, lay it again in heaps, and return it from time to time to the open Air till it be dry. That this Fish may be good, it must be dried in a good and temperate Air; Mists moisten it, and make it rot; the Sun hardens it, and makes it yellow.

Another kind of Fishing.

At the same time they fish for *Cods*, green or dry, the Fishers have the pleasure of taking *Fowl*, without going forth of their Vessels. They take them with a Line as they do fish, baiting the Hook with the *Cods* Liver; these Fowl being so greedy, that they come by flocks, and fight who shall get the Bait first, which soon proves its death: and one taken, the Hook is no sooner thrown out again, but another is catch'd in the like nature. But enough of these, and of *Cod-fishing*.

In the year 1623, Sir *George Calvert*, Knight, the *Principal Secretary of State*, and afterwards Lord *Baltimore*, obtained a Patent of part of *New-found-land*, which was erected into the Province of *Avalon*, where he settled a Plantation, and erected a stately House and Fort at *Ferry-land*, where he dwelt some time: And after his death it fell to his Son, the Right Honourable *Cæcilius*, late Lord *Baltimore*, also Proprietor of *Mary-land*.

The River *Canada*.

CANADA taken particularly, is on the Right hand, and towards the lower part of the great River; and its name is communicated both to the River and Neighbouring Country. This River is the largest of *America Septentrionalis*, and one of the fairest in the World: It is about 200 Fathom deep, and at its Mouth 30 Leagues broad. Its course (according to the report of those of the Country) is already known for 4 or 500 Leagues; and there is some likelyhood that we may in the end discover, that the Lake which seems to be its head-Spring, disburthens it self into the Sea by two or three different courses; one towards us, which is that of *Canada*; another towards the West, and above *California*; the third towards the North, and into the *Christian Sea*; and that the Mouth of this may shew us the way we have so long sought, to go to the *East-Indies* by the West.

People with whom the *French* Trade. Their Colonies.

The People with whom the *French* trade here are the *Canadans*, the *Hurons*, the *Algonquins*, the *Attiquamegues*, *Nipisiriniens*, *Montagnets*; those of *Saguenay*, *Acadia*, &c. And to this purpose they have divers Colonies on the great River at *Tadousac*, at *Quebeck*, at *Three-Rivers*, at *Sillery*, at *Richelieu*, at *Montreal*, and without the Bay of *Chaleur*, at *Miscou*, at *Port-Royal*, &c. This Trade is only managed by Exchange; they give the Skins of *Bevers*, *Otters*, *Martles*, *Sea-Wolfes*, &c. for *Bread*, *Pease*, *Beans*, *Plumbs*, *Kettles*, *Cauldrons*, *Hatchets*, *Arrow-heads*, *Pinchers*, *Coverlids*, &c. But to instruct them in Christianity, many *Ecclesiasticks* of Religious Orders have had divers disburse-

disbursements, and residences; likewise an *Hospital* and *Seminary* of *Ursulines*: The *Jesuits* have the chief care of these Houses.

Estottiland.

North of *Canada* is *ESTOTTILAND*, or *TERRA DE LA BRADOR* near *Hudsons* Streight; it is called sometimes the Land of *Corterial*, and sometimes *new Britany*; however, I esteem it a part of *new France*; the Country is Mountainous, Woody, full of wild *Beasts*, well furnished with *Rivers*, rich in *Metals*, of a fertil Soil in most places, and would produce *grains*, *fruits*, &c. if its Inhabitants would give it tillage. South of *Canada* are *New England*, *New York*, *Maryland*, *Virginia*, and *Caroline*; of which in Order.

New England described.

NEW ENGLAND, North of *Maryland* according to the report of Captain *Smith*, hath seventy miles of *Sea Coast*, where are found divers good *Havens*, some of which are capable to harbour about five hundred sail of Ships from the fury of the *Sea* and *winds* by reason of the interposition of so great a quantity of small *Isles* which lie about the Coast to the number of about two hundred. And although it be seated in the midst of the *Temperate Zone*, yet the Climate is more uncertain as to *heat*, and *cold*, than those *European Kingdoms* which lie *parallel* to it. Yet the Air is found very healthful and agreeable to the *English*, which hath occasioned the settlement of divers Potent *Colonies* here who live very happily, and drive a considerable *Trade* for their *provisions* to our *American Plantations*, especially to the *Barbados*. This Country is Inhabited by divers sorts of people, the chief amongst which are the *Bessabees* about the River *Penobscot*; and the *Massachusetes*, a great Nation, and every one are governed by their particular Kings, and do much differ in *Customs* and *Manners* from one another, as they do in the other parts of *America*, living generally at variance with each other; Their chiefest riches is in their *Furrs* and *Skins* which they sell to the *English* in truck for Commodities; they are for the most part ingenious, well disposed, and with little pains would be brought to *Christianity*. This Country is for the generality of a fertil soil, is well watered with Rivers, hath plenty of *Fish*, as *Cod*, *Thornback*, *Sturgion*, *Porpuses*, *Haddock*, *Salmons*, *Mullets*, *Herrings*, *Mackeril*, *Plaice*, *Oysters*, *Lobsters*, *Crab-fish*, *Tortoise*, *Cockles*, *Muscles*, *Clams*, *Smelts*, *Eels*, *Lamprons*, *Drums*, *Alewives*, *Basses*, *Hollibuts*, *Sharks*, *Seals*, *Grampus*, *Whales* &c. Here are great variety of *Fowl* as *Phesants*, *Partridges*, *Pigeons*, *Heathcocks*, *Oxeyes*, *Geese*, *Turkeys*, *Ducks*, *Teal*, *Herns*, *Cranes*, *Cormorants*, *Swans*, *Brants*, *Widgeans*, *Sheldrakes*, *Snipes*, *Doppers*, *Blackbirds*, *Loon*, *Humbird*, with divers others too tedious to name. They have also great plenty of *Beasts* both tame and wild, as *Cows*, *Sheep*, *Goats*, *Swine*, and *Horses*; and for wild *Lyons*, *Bears*, *Wolves*, *Foxes*, *Martins*, *Rackoons*, *Mooses*, *Musquasus*, *Otters*, *Bevers*, *Deer*, *Hares*, *Coneys*, &c. Amongst the hurtful things the *Rattlesnake* is the most dangerous; and here are several sorts of stinging Flies which are very troublesom to the Inhabitants. Here are sundry sorts of *trees*, as the *Oak*, *Cyprus*, *Pine*, *Cedar*, *Chesnut*, *Walnut*, *Firr*, *Ash*, *Elm*, *Asp*, *Alder*, *Maple*, *Birch*, *Sassafras*, *Sumach*, &c. also several *Fruit-trees*, as *Pomgranates*, *Maracocks*, *Puchamins*, *Olives*, *Apples*, *Pears*, *Plumbs*, *Cherries*, *Grapes*, with those common in *England*. And their ground also produceth *Potatoes*, *Carrots*, *Turnips*, *Parsnips*, *Onyons*, *Cabbages*, with most of the *Roots* and *Herbs* found in *England*. The *soil* being very agreeable for them. But the *fruits* are not found here so good as in *Virginia*, nor in *Virginia* as in *Caroline*, as lying more Southwards, and having the greater influence of the Sun. This *Country* affordeth several rich *Furrs*, hath *Iron*, *Amber*, *Pitch*, *Tarr*, *Masts*, *Flax*, *Linnen*, *Cables*, and *Grains* in great plenty. The *English* which now Inhabit this Country are very numerous and powerful, having a great many Towns several of which are of considerable account, and are governed by *Laws* appropriate to themselves, and have their Courts of *Judicature*, and assembling together, each *Town* having two *Burgesses* for the looking after the affairs of the *Colony*. And as to matters of *Religion* and *Church Government*, they are very strict, and make a great show, being much of the stamp of the ridged *Presbyterians*. Amongst their Towns these are of chief note. *Boston*, commodiously seated for

The Native Inhabitants.

Their Fish.

Fowls.

Beasts.

Trees.

Fruits.

Its Commodities.

Government.

Traffick

Its chief Towns.

Traffick on the *Sea Shore*; at present a very large and spacious Town, or rather a City being composed of several well ordered *streets*, and graced with fair and beautiful houses, which are well inhabited by *Merchants*, and *Tradesmen* who drive a very considerable *Trade*; It is a place of great strength, having two or three hills adjoyning, on which are raised *Fortifications*, with great Pieces mounted thereon which are well guarded. 2. *Charles Town* seated on and between the Rivers *Charles* and *Mistick*; it is beautified with a large and well built Church, and near the River-side is the *Market place* from which runs two *streets*, in which are divers well built houses. 3. *Worchester*, an indifferent Town seated near the Sea. 4. *Cambridge* commodiously seated on a River, doth consist of several *streets*, and is beautified with two *Colledges*; and hath divers fair and well built houses. 5. *Reading* commodiously seated about a great Pond, and well Inhabited. 6. St. *Georges Fort* seated on the mouth of the River *Sagadebock*. 7. *New Plymouth*, seated on the large *Bay* of *Potuxed*. With divers other Towns of some account, most of which bear the Names from those of *England*; but amongst the *Indians* are known by other names.

New York described.

NEW YORK, formerly *New Netherland* is seated betwixt *New England* and *Virginia*; It is now called *New York* from his *Royal Highness* the Duke of *York* the Proprietor thereof, by grant from his *Majesty*. It is a Country of a fertile soil, is well watered with *Rivers*, and is found to produce the same *Beasts*, *Birds*, *Fowls*, *Fish*, *Fruits*, *Trees*, *Commodities*, &c. and in as great plenty as *New England*, so they need not be taken notice of here. This Country is also possessed by sundry sorts of people, not much unlike those of *New England*, and are very expert at their *Bow* and *Arrows*, which is their chief weapon of War; are found to be of a ready wit, and very apt to learn what is taught them; in their Religious *Rites* divers ceremonies are observed amongst them, and are said to worship the *Devil* whom they much fear; their *Priests* being little better than *Sorcerers*, who strangely bewitch those silly people. When any woman findeth her self quick with child she keepeth her self chast from man until her delivery, the like she observeth in the time of her giving suck, a strange Custom which our *European Dames* would not well relish; upon the least offence the man turneth away his wife, and marrieth again, and the Children begotten by her she keepeth; *Fornication* is here permitted; they are very dutiful to their Kings, they believe the transmigration of the *soul*, and concerning the Creation of the world have strange foolish opinions. They are much addicted to *sports*, *recreations*, and *dancings*, and observe *Festival times*. Their habit is but mean as the rest of the *Indians*, yet do they paint and besmear their faces with several colours, which they hold Ornamental; their dyet and *habitations* are also mean; Here is one very considerable Town now called *New York*, being well seated both for security, trade and pleasure in a small Isle called *Mahatan* regarding the Sea made so by *Hudsons River*, which separates it from *Long Island*: The Town is large containing about 500 well built houses, and for Civil Government it hath a *Major*, *Aldermen*, *Sheriff*, and *Justices* of the *Peace*, for security of the Town here is raised a *Fort* called *James Fort*, a place of considerable strength; The Town is Inhabited by *Dutch* as well as *English*; and hath a considerable Trade with the *Indians*, and is like to be a place of considerable Account.

Its Native Inhabitants.

Province of Maryland described.

MARTLAND, is South of *Virginia*, from which it is severed by the River *Patowmeck*. The *Bay* of *Chesopeak*, giving entrance to Ships into *Virginia*, and *Maryland* passeth through the heart of this Province, and is Navigable for about 200 miles, into which fall the Rivers of *Patowmeck*, *Patuxent*, *Severn*, and *Sasquesahanough*, which lie on the West side of the *Bay*, and to the East those of *Choptanke*, *Nantecoke*, *Pocomoke*, with some others to the great improvement of the *soil*. The Country of late years since the felling the Woods, and the people accustoming themselves to *English dyet*, is very healthful and agreeable to their Constitutions few dying at their first coming, of the *Countreys disease* or *seasoning*; and as to temperature of the *Air*, the Hears in Summer nor the Colds in

in winter are offensive to its Inhabitants. The soyl is rich and fertil naturally producing all such *Commodities* as are found in *New England*, and doth abound in the said several sorts of *Beasts*, and *Fowl*, both tame and wild; hath also the same *Fish*, *Fruits*, *Plants*, *Roots*, *Herbs*, *Trees*, *Gums*, *Balsams*, &c. but the *Fruits* are more excellent and in greater plenty; here *Mulberry trees* grow wild, and were the people industrious, the *Silk trade* might be soon brought to perfection, but their imployment is altogether taken up in planting and ordering their *Tobacco*, which is the only and Staple Commodity of the *Countrey* which they vend for such necessaries as they have occasion for. They yearly freighing about one hundred sail of Ships therewith. The Natives as to their *Complexion*, *Stature*, *Coftoms*, *Laws*, *Religions*, *Dispositions*, *Habit*, *Dyet*, &c. are much the same with the *Indians* in the other parts of *America*, and are of divers *Tribes* or sorts of People, and each governed by their particular King. This *Province* of *Maryland* is by Patent granted to the Right Honourable the Lord *Baltimore* and to his Heirs and Assigns, being absolute Lord and Proprietor of the same, having Royal *Jurisdictions* and *Prerogatives* both Military and Civil, as making of *Laws*, pardoning of Offences, conferring of Honours, Coyning of Money, &c. and in acknowledgment thereof paying yearly to his Majesty and his Successors two *Indian Arrows* at *Windsor Castle* on *Easter Tuesday*. This Province is severed into ten Counties, *viz.* five Eastwards, and five Westwards of *Chesopeak Bay*, and in every County there is held an inferiour Court every two months for small matters, from which there lyeth Appeals to the *Provincial* Court at St. *Maryes*, and each County have their *Sheriffs*, and *Justice* of the *Peace*. The *English* which are reckoned about 16000 have begun of late to build some Towns, which 'tis hoped in few years will come to good perfection, as *Calverton*, *Herrington*, and *Harvy-Town*, all commodiously seated for the benefit of Trade, and conveniency of Shipping, but the principal Town is St. *Maryes*, seated on St. *Georges River*, beautified with several well built houses, where his Lordship *Charles* Lord *Baltimore*, hath his House, and where the general *Assemblies* and *Provincial Courts* are held, and publick *Offices* kept. But his Lordship's general Residence is at *Mattapany* about eight miles distant, where he hath a fair and pleasant house.

Its soil.

People.

Trade.

Division of the Province into Counties.

Government.

VIRGINIA is said to be first discovered by Sir *Francis Drake* (as indeed all this tract of Sea Coast) and was so named by Sir *Walter Rawleigh* in honour of Queen *Elizabeth*, who then Reigned; but before it was brought to any perfection much time was spent with no small expence, and loss of mens lives. And about the Reign of K. *James*, a Patent was granted to certain persons, as a *Corporation*, and called the Company of *Adventurers of Virginia*; but upon divers misdemeanours and miscarriages about the year 1623, the Patent was made void, and hath been since free for all his *Majesties Subjects* to Trade unto. It is scituate Southwards of *Maryland*, and hath for its Eastern limits the *Atlantick Ocean*. It is blest with a good Air, and the Clime of late since the clearing of *woods* is found very agreeable to the *English*, so that few die of the *Country disease* called *seasoning*. The soil is so fertil that an Acre of ground commonly yields 200 bushels of *Corn*, and is very apt to produce what is put therein, as *English Grains*, *Roots*, *Seeds*, *Plants*, *Fruits*, &c. besides those appropriate to the Country and other adjacent parts of *America*; and it is observed that their *Fruits* (which are in great abundance and of various sorts) for goodness may compare with those of *Italy* or *Spain*, which are esteemed the best in *Europe*. They have great abundance of *Beasts*, *Fowl*, and *Fish*, which I have taken notice of in *New England*, and their *Turkeys* are said to weigh about six stone; amongst their small *Birds* is the *Mock-Bird* which counterfeiteth the notes of all *Birds*, for which it is esteemed excellent. The *Commodities* which this Country doth or may produce, are *Flax*, *Hemp*, *Woad*, *Madder*, *Pot-Ashes*, *Hopps*, *Honey*, *Wax*, *Rapeseed*, *Annicseed*, *Silk* (if they would make it *Mulberry Trees* here growing in so great plenty) several sweet *Gums* and excellent *Balsomes*, *Alome*, *Iron*, *Cop-*

Virginia by whom first discovered.

Its Bounds.

Its Fertility.

Its Beast, Fowl and Fish much the same as in *New England*.

Its Commodities.

Copper,; several sorts of *Woods*, *Plants*, &c. used by *Dyers*, *Pitch*, *Tarr*, *Rosin*, *Turpentine*, sundry sorts of rich *Furrs*, *Elk-skins*, and other *Hides*, but above all *Tobacco*, which is their principal *Commodity*, and the standard by which all other Commodities are prized; but it were to be wished the *Inhabitants* would imploy their time about other Commodities as well as *Tobacco*, and they would soon find the profit, and their *Tobacco* would not be such a drugg as now it is. This *Countrey* is well watered with several great and strong *Rivers* which loose themselves in the *Gulph* or *Bay* of *Chesopeak*, which gives entrance for Shipping into this Countrey, as well as to *Maryland*; and is a large and capacious *Bay* found very commodious for *Shipping*, being said to run up into the Country Northwards above 200 miles; amongst the Rivers those of most note are *Pawhatan* now *James* River, found Navigable about 150 miles; *Pamaunke* now *York* River, also large and Navigable about 60 miles; and *Rapahanock* which is long and Navigable about 120 miles; And near or adjoyning to these Rivers for the conveniency of Shipping the *English* are seated, and have some Towns, the chief of which is *James Town* commodiously seated on *James* River, a neat Town, and beautified with well built *Brick Houses*, and here are kept the Courts of *Judicature*, and *Offices* of publick concern for the *Countrey*. Next to *James Town* may be reckoned *Elizabeth*, a well built Town, seated on the mouth of a River so called. Also *Dales-gift*, *Wicocomoco*, *Bermuda*, and others. The *Governour* of this Country is sent over by his *Majesty*, and the Country is governed by *Laws* agreeable with those of *England*; and for the better observing the same, the Country possessed by the *English*, is divided into the Counties of *Caroluck*, *Charles*, *Gloceſter*, *Hartford*, *Henrico*, *James*, *New Kent*, *Lancaſter*, *Middleſex*, *Nanſemund*, *Lower Norfolk*, *Northampton*, *Northumberland*, *Rapalianock*, *Surrey*, *Warwick*, *Weſtmorland*, the Isle of *Wight*, and *York*, and in each of these Counties are held petty Courts every Month, from which there may be Appeals to the *Quarter Court* at *James Town*. As to the *Natives* which here Inhabite, they are much of the nature of those already treated of, so I shall omit them here. Only say that it is the Habitation of divers sorts of *Indians*, which have no dependance upon each other, being of particular *Tribes*, and having their peculiar King to govern them, every *Indian Town* being the habitation of a King, and these people do rather live at enmity than amity together.

Its Rivers.

Its chief places.

Its division into Counties.

CAROLINA a Colony not long since established by the *English*, and is that part of *Florida* adjoyning to *Virginia*, in the *Latitude* of 36 *degrees*, and extendeth it self to that of 29, which makes it extream Southern bounds; on the East it is washed with the *Atlantick Ocean*, and on the West it hath that large tract of Land which runneth into the *Pacifick Ocean*. It is a Country blest with a wholsom and temperate Air, the *heat* in *Summer*, nor the *cold* in *Winter* (which is so much as to check the growth of *Plants*, *Trees*, &c. the several *fruits* and *plants*, having their distinct seasons) being no waies troublesome to its *Inhabitants*, but very agreeable to the *English*; and being found thus healthful hath occasioned several persons to remove from the *Bermudes* to settle here, who dwelling in so pure an Air durst not venture in any other *Country*. Nor do those from the *Bermudes* only remove hither, but from most of the *American Plantations*, as well as from *England*, it being esteemed by all one of the best Colonies that ever the *English* were Masters of, for here is altogether Health, Pleasure, and Profit, centered together, which cannot be met with in so large a measure in any other part of the *Indies*. This Country has first Inhabited by the *English* about the year 1660, and became a *Proprietorship*, which his present Majesty *King Charles* the Second, granted by Patent to the Right Noble *George* Duke of *Albemarle*, the Right Honourable *Edward* Earl of *Clarendon*, *William* Earl of *Craven*, *Anthony* Earl of *Shaftsbury*, *John* Lord *Berkley*, Sir *George Cartwright*, Sir *Jo. Colleton*, and Sir *William Berkley*, and to their Heirs and Successors; and the said Lords *Proprietors* having by their Patent power to Establish a *Government*, and make *Laws* for the better regulation thereof, and the inviting of *Inhabitants*, have formed a *Model* so well framed for the good and welfare of the Inhabitants, that it

its scituation bounds.

The Proprietors.

it is esteemed by all judicious persons without compare. The Natives of *Carolina* according to the observation of one *Ledener*, (who made three several journeys from *Virginia* to *Carolina* about the Year 1670, for a discovery of those parts, and the nature and disposition of the *Inhabitants*) are said to be of a ready wit and good understanding, they instruct their Children in such things as relate to their *Families*, and *Country*, which is so preserved from Generation to Generation. They worship one *God*, as Creator of all things, to whom their *High Priest* offers Sacrifice, but believes he hath something else to do than to regard *Humane affairs*, committing them to lesser *Deities*, *viz.* to good and evil *Spirits*, to whom their inferiour *Priests* make their *devotion* and *Sacrifice*. They believe the *transmigration* of the *soul*, and when any one dieth they interr with them *provisions* and Houshold stuff for the next World, which they fancy to be beyond the *Mountains*, and *Indian Ocean*. In their *Marriages* they are very Superstitious; for the generality they are of a good and honest meaning, much addicted to mirth and dancing, and above all are much prone to Honour and Valour which they place above all other vertues. They are great favourers of the *English*, living together in love and friendship, and upon all occasions ready to contribute their assistance unto them. The Country is by them divided into several Kingdoms, and the people in the one keep no correspondence with those that border upon them, often waging War against one another. The Soil is rich and fertile, and produceth excellent *Fruits*, as *Apricocks*, *Peaches*, *Grapes*, of which the *English* have made good *Wine*; *Olives*, of which good *Oyl* is made; *Wallnuts*, *Apples*, *Pears*, *Plumbs*, *Cherries*, *Figgs*, *Mulberries*, *Strawberries*, *Water-Mellons*, *Marachocks*, *Quinces*, and other *Fruits* known to us in *Europe*, which for goodness are no waies inferiour to them, and in the Southern part *Oranges*, *Limes*, *Pomegranates*, and *Pomecitrons*, and the earth is generally very apt to produce and bring to maturity *Corn*, all sorts of Garden *Herbs*, *Roots*, &c. The *Commodities* which this Country doth and may produce are *Wines*, *Oyls*, *Silk*, *Mulberry-trees* growing wildly, *Cotton*, *Indico*, *Ginger*, *Tobacco*, Masts for Shipping which for length, streightness and bigness are the best in the World, &c. And it is believed that here may be made more *Wines*, *Oyls* and *Silk* than *England* will vent. Besides the *Mulberry-trees*, here are *Cedar*, *Oak*, both white and red, *Poplar*, *Bay*, *Ash*, *Pine* with divers others whose names are not yet known. The Woods are well stored with *Pheasants*, large *Turkeys*, *Partridges*, *Turtle-Doves*, *Pigeons*, great variety and plenty of small Birds, also *Deer*, *Hares*, *Conies* &c. The Country is well watered with Rivers, which with the Sea sufficiently furnish the Inhabitants with excellent Fish and such common in *Virginia*; here are great plenty of wild *Fowl*, as *Geese*, *Cranes*, *Herons*, *Swans*, *Curlews*, *Heath Cocks*, *Oxeys*, *Brants*, *Dotterels*, *Widgeons*, *Teal*, *Duck* and *Mallard* in an undestroyable quantity. Here are at present two considerable Settlements, *viz.* at *Albemarle* River in the North, and at *Ashley* River in the middle of the *Country* which is likely to be the scale of *Trade* for the whole Country as being very commodiously seated for Shipping, and in a healthful place.

The Native Inhabitants.

Its Fruits.

Commodities.

Its Trees.

Fowls.

In all these parts, which we have passed under the name of *CANADA*, the the people are very barbarous, having neither *Religion*, nor *Learning*. Divers people have diversity of Languages: they count their years by the course of the *Sun*, their months by that of the *Moon*, their four Seasons by any remarkable thing hapning in them. They are of a middle stature, well proportioned, disposed to running and swimming, of an olive or tawny colour, because they go for the most part naked, often anointing themselves with a certain Oyl to hinder the Flies from tickling them; they wear few Ornaments on their bodies, though their Women do; making themselves *Necklaces*, *Bracelets* and *Scarfs*, formerly of *Fishes*, *Shells*, *Porcelain*, &c. now of *Glass*, *Chrystal*, and Toys, carried hence.

The People of *Canada*.

They make Feasts at their Marriages, at their Victories, at the reception of their friends; and take much *Tobacco*. They eat sometimes the flesh of their enemies which they have taken in the War, and fed well before, whom they kill

Customs observed among them.

kill with exceſſive cruelties. They uſe Bows and Arrows, in which they are very expert.

FLORIDA.

FLORIDA may be eſteemed a part of *New France*, ſince the *French* were the firſt that eſtabliſhed there any Colony, by the conſent of the people of the Country. It may likewiſe be eſteemed part of *New Spain*, ſince at preſent the *Caſtilians* have two Colonies under the Juriſdiction of the Audience of S. *Domingo*, one of the four Audiences of *New Spain*, but theſe two Colonies are ſo weak, and ſo near the one to the other, and the Country is ſo that that is not conſiderable. We may ſay, that *Florida* is between *new France*, and *new Spain*, and that it extends it ſelf from the River of *Palmas*, which bounds it from the Province of *Panuco* in *new Spain*, unto the River *Jordan*, which divides it from *Virginia*, which I have eſteemed in *Canada* or *New France*. The greateſt part of its Coaſt is on the Gulph of *Mexico*, which flows on its South: Another part on *Mer del Nort*, which waſhes it on the Eaſt: Between this Gulph and the Sea, *Florida* ſtretches out a *Peninſula* towards the South; where the *Cape* of *Florida* is not diſtant from the Port of *Matnaſas* in the Iſle of *Cuba*, above 35 or 40 Leagues. The more Weſtern Coaſt of *Florida*, reaches 450 Leagues, the Eaſtern 150; the *Peninſula* between both, advancing 150 Leagues from the Coaſt, and not being above 60 or 75 Leagues broad, makes yet another Coaſt of 350 Leagues; ſo that all *Florida* hath not much leſs than 1000 Leagues of Coaſt on the Sea.

Its Coaſt.

The *Caſtilians* have no Colony on the Gulph of *Mexico*, nor on the Coaſt, where the *French* have formerly been. Thoſe two Colonies they have here, are St. *Auguſtine*, and St. *Mathew*, 15 or 16 Leagues one from the other, on the Eaſtern Coaſt of the *Peninſula*, and there where it approaches the Coaſt, where the *French* had ſettled: the North and Weſt of *Florida* is incloſed with Mountains, which divides it from *New France*, and *New Mexico*. St. *Auguſtine* which is the beſt, and ſtrongeſt of the two Colonies, was taken and pillaged by Sir *Francis Drake* in *Anno* 1585.

Florida firſt diſcovered by the *Engliſh*.

FLORIDA was firſt diſcovered in 1496 by the *Engliſh*, under the Conduct of *Sebaſtian Gabott*, whom *Henry* the Seventh, King of *England*, ſent to ſeek by the Weſt a paſſage to fall into the Eaſt: he contented himſelf to have ſeen the Country yet unknown, and to make report thereof to his Maſter; afterwards better ſearched into by *John de Ponce* of *Leon*, who in 1512 would have eſtabliſhed a Colony for his Maſter the King of *Caſtile*, were it not for the reſiſtance of the Country made againſt him, who oftentimes made him retreat, and at laſt forced him to return to *Puerto Ricco* of which place he was Governour; where, on a deſperate wound in his laſt encounter, which he there received, he ended his life. In 1524 *Lucas Vaſques* of *Aillon*, and ſome other *Spaniards*, landed divers times at *Florida*, with no other deſign than to take away its Inhabitants, whom they tranſported to *Hiſpaniola*, and *Cuba* to work in their Mines, wherein they had already conſumed the greateſt part of its Inhabitants. *Pamphilus Narvaes* was likewiſe there in 1528, who traverſed it as far as the *Mountains* of *Apalachi*, where he hoped to find Gold. The moſt famous landing that the *Spaniards* have ever made in *Florida* was in 1534, under the conduct of *Ferdinando Soto*; who being rich with the ſpoils he had gained, in his Conqueſt of *Peru*, led hither 350 Horſe, and 900 Foot, with which force he traverſed *Florida* almoſt on all ſides, without endeavouring to bind a Colony; much moleſting thoſe of the Country, by whom he was in like manner turmoyled, during the many years he coaſted it; till in the end, not finding thoſe riches he expected, he died with grief, and was buried at the bottom of a River, for fear leſt his body ſhould fall into the hands of his Enemies. His people returned in 1543, there remaining about 30 Horſe, and 300 Foot. All the advantage *Soto* received by his travel, was, the giving the

Alſo by *John de Ponce* and others.

Ferdinand Soto his landing here.

the name of *Florida* to the Country, either becauſe he arrived there the day of *Paſquæ Floriæ*; or becauſe that, landing, he found the *herbs* and *flowers* in their prime and verdure. In 1549 the Emperor *Charles* the Fifth, and the Council of the *Indies* thought it not good to ſend any more *Armed men*, but rather ſome *Religious perſons*, to ſweeten the fierce humours of theſe barbarous people *Lewis* of *Barbaſtre*, of the Order of St. *Benedict* went with ſome other *Fathers*; but preſently thoſe of the Country ſeized and maſſacred him, with his two Companions, fleaing them, and hanging their skins at the doors of the *Cabanes*; the reſt ſaved themſelves, by retiring into thoſe Ships that brought them.

Lewis of *Barbaſtre* a *Benedict* maſſacred here.

The *French* were not in *Florida*, ſave under the Reign of *Charles* the Ninth. *Francis Ribaut* was ſent in 1562. He made alliance with thoſe of the Country, and built the Fort *Caroline* on the River *May*. *Ribaut* being returned to *France*, with promiſe to bring thither more people: but too long delaying his return, his men grew diffident and mutinous, and built a ſtrange kind of Veſſel, and with the ſmall ſtock of proviſions they could ſtow in her, put to Sea, where they endured ſo great want, that they were forced to caſt lots to eat one another; which fell firſt to him who had been the cauſe of their diſcord.

An Exploit of the *Spaniards*.

Rene Laudoniere returned in 1564, reſtored the Fort *Caroline*; but the *Caſtilians*, jealous to ſee this eſtabliſhment near their *New Spain*, reſolved to drive them thence: they landed with ſhow of no deſign againſt the *French*; but their intentions were otherwiſe, for in the end they ſurprized the *Fort*, out of which *Laudionere* could ſcarce ſave himſelf, took *Ribaut* on the Sea who had before been Shipwrack'd; hanged the Souldiers, and flead *Ribaut*, as *Leſcarbott* ſaith.

Another by the *French*.

In 1567 *Dominic de Gourgues*, a *Gaſcon*, and of *Mont de Marſan*, made an attempt of his own head to revenge this Affront: he put to Sea at his own expence, with a hundred and fifty Souldiers, and eighty Mariners; landed in *Florida*, and with the aid of thoſe of the Country, who affected the *French*, retook *Caroline* from the *Spaniards*, with two other Forts which they had new built; cauſed them to be hanged on the ſame trees whereon they had hanged the *French*; razed the Fort, and returned into *France* in 1568, where he had no ſmall trouble to clear himſelf for is exploit.

The fertility of *Florida*.

Florida being between the twenty fifth or thirtieth and fortieth Degrees of *Septentrional Latitude*, the Countrey cannot chuſe but be good, their Woods and Foreſts are well cloathed with trees, as lofty *Cedars*, large *Oaks*, *Cyprus* and *Bays*, trees of a large proportion, alſo great ſtore of that wood called by the *French Saſſafras*; as alſo another tree called *Eſquine*, the Bark of which trees are an excellent remedy for many diſtempers, eſpecially the *French* Diſeaſe. And in theſe Forreſts and Woods are found all ſorts of *Beaſts* and *Fowl*; the Country is well ſtored with ſeveral ſorts of *Fruits*, as *Grapes*, *Cherries*, *Plumbs*, *Mulberries*, *Cheſnuts*, &c. It is enriched with Mines of *Gold* and *Silver*, but in no great plenty, nor much regarded by the Natives. It is well watered with freſh Streams, which are ſtored with variety of *Fiſh*, and *Crocodiles*, which they eat; they have all ſorts of *Fowl* and *Veniſon* as we have. The people are of an *Olive-colour*, great ſtature, but well proportioned; their hair is black which they wear very long; their women do far exceed other adjacent Nations in handſomneſs, which makes them much deſired by Strangers, and their ſhape and beauty is more diſcernable in that they go naked till their *Purgations*, and afterwards only they make uſe of skins of *Beaſts*, taken in hunting, which they embelliſh with *Feathers*, of divers colours, which they tie about their waiſts, and hangs down to their knees, only to hide their *Privities*; and their *Arms*, *Back*, *Breaſt*, *Knees*, and other parts which are expoſed to ſight, are ſtained with ſeveral ſorts of Paintings, not to be waſhed off, which is eſteemed a great ornament among them. They bear ſome reverence to the *Sun* and *Moon*; they are accounted very *crafty*, *cunning*, *deceitful*, *revengeful*, and much addicted to War; their Arms are *Bow* and *Arrows*, as are almoſt all the *Americans*; they know the nature of their *Herbs*, and

Its Inhabitants, as to their Stature, Habit, Cuſtoms, &c.

and have Flowers of fine colours; they pass a part of the year in the Woods, where they live on *Hunting*; and part near the *Lakes*, *Rivers* and *Sea* where they *Fish*. They have a Custom among them, that is, the Women when their Husbands die, do cut of their hair, and strew it on his Sepulcher, and are restrained from marrying again till their hair is long enough to cover their Shoulders. The Country yields great plenty of *Mayz*, which is their natural bread, which they sow and reap twice in one year: this *Grain* they gather, and put into publick places, and distribute it to every Family as occasion requires.

The manner of their whale Fishing.

Their *Whale Fishing* is made with a cunning and boldness, which those of *Europe* dare not attempt. The *Fisherman* having discovered one, enters into his *Canott*, then leaps upon his back, and there riding takes his time to plunge a stick into one of his nostrils; and what ever endeavour he uses, though he plunge under water, he holds fast; and expecting his rising, fastens another stick on the other side, and then retires with a cord fastned to these sticks; the *Whale* not able to breath, grows weak; and then by little and little, he draws it to the shore; where assisted by his Companions, he cuts it in pieces, drying it to make Flowr, and of that Flowr Bread, which lasts a long time.

The people of *Florida* are governed by their *Paraousti's*, who lead them to War where they kill the men, but preserve the women and children; they have their *Jovona's*, or *Sacrificers*, who serve as *Physicians*, and to whom they bear honour. Their *Paraousti's* being dead, are interred with many Ceremonies; living, are much feared and obeyed. They have many wives, among which one is esteemed the chief, whose children may hope for the charge and dignity of their Father.

The House of *Paraousti Ovade* (when Captain *Albert* was there to beg of him some provisions; besides divers moveables and ornaments) was hung as high as a Pikes length with *Tapestry*, made of rare *Feathers*, and of most beautiful colours, composed of such Artifice, that they were worth the most part of ours. The Coverlid of his Bed was white, tissued in divers copartiments, and with a fringe of Scarlet about it.

Rivers in Florida.

Rivers of most note in *Florida* are: 1. *Rio de Flores*. 2. *Rio de Spirito Sancto*. 3. *Rio de Neives*. 4. *Rio Grande*. 5. *Rio Secco*. 6. *Rio Garunna*. 7. *Rio Charente*. 8. *Rio Axona*, and some others.

Chief Towns.

Chief Towns (or rather Cottages) in *Florida*, are: 1. St. *Hellens*. on a promontary so named. 2. *Port Royal*, a good and well frequented Haven, seated on the mouth of a River so named. 3. St. *Matthews*, 4. St. *Augustine*. 5. St. *Philip*. 6. St. *Jago*, once (if not at present) possessed and fortified by the *Spaniards*, with some others of less note.

The

The ISLES of BERMUDES.

EAst of *Virginia* and *Florida* we have the Isles of *BERMUDES*, so called from *John Bermudes*, a *Spaniard*, by whom it was first discovered; also called the *Summer-Islands*, from the Shipwreck which one Sir *George Summers*, an *English-man*, there suffered: It is about 15 or 1600 Leagues from *England*, 400 from *Hispaniola*, and only 300 from the neerest Coast of *Virginia* and *Florida*. Of these Isles the greatest, called St. *Georges*, is five or six Leagues long, and almost throughout not above a quarter, third, or half a League broad; the others are much less. All together make a body which form a Cressant, and inclose very good Ports; as those of *Southampton*, *Harrington*, *Pagets*, the Great *Sound*, *Dover*, and *Warwick*. Its Parts.

The Air is almost always serene, sometimes moist and hot, but very healthful, agreeing well with the *English* Bodies, who have here at divers times settled and established a fair and powerful Colony, and have strongly fortified the Approaches, which at present are very difficult; and the Earth is exceeding fertil, yielding two Crops a year; their *Mayz* they gather in *July* and *December*: They have excellent Fruits, as *Oranges*, *Dates*, *Mulberries*, &c. They have plenty of *Tortoises*, which is their ordinary food, and the *Hogs* which the *Spaniards* formerly carried thither are excellent, and much increased; they have many *Sea-birds*, and other Fowl; they have no fresh Water but that of Wells and Pits, there being neither Fountain nor Stream in these Islands. They have no venemous Beasts, their *Spiders* not being poysonous, but of sundry and various colours; and in the Hot weather they make their Webs so strong, that ofttimes Birds are entangled and catched in them. *Cocheneil* and *Tobacco*, with some *Pearls* and *Amber*, are their principal Riches, for which they have a good trade. Their Governour is sent them by the King of *England*, who governs them by our *English Laws*, whom they also own as their Supream; and it is observed, that scarce any are found to die but with Old age.

Its Air.

The Earth fertil.

No venemous Beast here.

Its chief Commodities.

- MEXICANE, with its ſeveral Audiences of
  - MEXICO, whoſe Provinces, with their chief Places, are thoſe of
    - FLORIDA — St. Hellens, Port Royal, St. Matthews, St. Auguſtin, St. Jago, Naguater.
    - MEXICO, particularly ſo called — Mexico, Chulula, Tezcuco, Quitlavaca, Queretaro, Meſtitlan, Cuyocan, Acapulco.
    - PANUCO — St. Jago de los Valles, Panuco, St. Lewis de Tempue.
    - MECHOACAN — Mechoacan, Colima, St. Philip.
    - THASCALA — Thaſcala, los Angelos.
    - GUAXACA — Antequera, Spiritu Sancto.
    - TABASCO — Nof. Sen. de la Victoria.
    - JUCATAN — Merida, Campeche.
  - GUADALAJARA, whoſe Provinces, with their chief Places, are thoſe of
    - GUADALAJARA — Guadalajara, St. Maria de las lagos.
    - XALISCO — Compoſtella, la Purification, Xaliſco.
    - CHIAMETLAN — St. Sebaſtian.
    - CULIACAN — St. Michael, Piaſtla.
    - CINALOA — St. John.
    - LOS ZACATECAS — Zacatecas, Nombre de Dios.
    - NEW BISCAY — St. John, St. Barbara.
    - QUIVIRA — St. Fee.
    - ANIAN.
    - CIBOLA — Cibola.
    - CALIFORNIA — Port de Montere, Port de Roque.
  - GUATEMALA, whoſe Provinces, with their chief Places, are thoſe of
    - GUATEMALA — St. Jago de Guatemala, St. Salvador, la Trinidad, St. Michael, Xeres.
    - VERA PAX — Vera Pax.
    - SOCONUSCO — Gueveſan.
    - CHIAPA — Cuidad Real.
    - HONDURAS — Valadolid, Gratias di Dios, Truxillo, St. George de Olancho.
    - NICARAGUA — Leon, Granada, Laen.
    - COSTARICA — Cartago, Nicoya, Caſtro de Auſtrio.
    - VERAGUA — la Conception, Trinadad, Santa Fee, Parita.
  - St. DOMINGO; In which are the Iſles of ANTILLES, or CAMERCANES, otherwiſe called the Iſles of LUCAYES, and the CARIBE Iſles; the chief among which are thoſe of
    - CUBA — St. Jago, St. Spiritus, Porto del Principe, St. Chriſtophoro.
    - JAMAICA — St. Jago, Port Royal, Paſſage, Meliſſa.
    - HISPANIOLA — St. Domingo, Porto del la Plata, St. Jago, Monto Chriſto.
    - SAONA — St. Juan del puerto Rico, St. Germain.
    - BOREQUIEM — St. Juan del Puerto Rico.
    - St. CRUX.
    - St. CHRISTOPHERS — Sandy point, Baſſe terre.
    - NIEVES.
    - ANTEGO.
    - MONT SERRAT.
    - GUADELOUPE.
    - MARIGALANTE.
    - MARTINIQUE.
    - St. OLOUZIA.
    - BARBADOS — St. Michaels, Little Briſtol, St. James, Charles Town.
    - St. VINCENT.
    - GRENADO.
    - BARBADA.
    - ANGUILLA.
    - DOMINICA.

MEX-

MEXICO,

OR

New Spain.

MEXICO, or *NEW SPAIN*, is the faireſt and moſt famous part of *America Septentrionalis*, and ſometimes the *Spaniards*, comprehended under this name all that *America*: We may eſteem that which belongs to the Catholick King for the greateſt part; in which we ſhall have ſeveral Provinces, and all compriſed under four *Audiences* or *Courts* of *Parliament*: *viz.* that of *St. Domingo*; of *Mexico*, which bears the particular name of *New Spain*; of *Guadalajara*, or *Nova Gallicia*; and of *Guatimala*.

The Audience of *St. DOMINGO* hath under it all thoſe Iſlands which are before the Gulph of *Mexico*; then *Florida* which is North-Weſt of them, and in *America Septentrionalis*; and *Venezuela*, New *Andalouſia*, and *Rio del Hacha*, which are towards the South of them, and in *America Meridionalis*. The Audience of St. Domingo.

The Audience of *MEXICO* hath the Provinces of *Mexico*, *Panuco*, *Mechoacan*, *Tlaſcala*, *Guaxaca*, *Tavaſco*, and *Jucatan*. That of *Panuco* is North of *Mexico*; *Meochan*, Weſt; *Tlaſcala*, Eaſt; *Guaxaca*, *Tavaſco*, and *Jucatan*, continuing likewiſe towards the Eaſt. The two laſt lie wholly upon *Mer del Nort*; *Guaxaca*, and *Tlaſcala*, on the two Seas of North and South; *Mexico* and *Mechoacan* only on that of the South, and *Panuco* on that of the North. The Audience of Mexico, and its Provinces.

The Audience of *GUADALAJARA* contains the Provinces of *Guadalajara*, *Xalaſco*, *Los Zacatecas*, *Chiametlan*, *Cinaloa*: ſome add *New Biſcany*, and others likewiſe *Cibola*, *Quivira*, *Anian*, *California*, &c. *New Biſcany*, and *Los Zacatecas*, touch not the Sea; *Guadalajara*, little; to wit, between *Xaliſco* and *Chiametlan*: and theſe begin on *Mer del Sud*. Others advance themſelves far into that which they call *Mer Vermejo* or the *Red Sea*, the Iſle of *California* being on the other ſide. The Audience of Guadalajara, and its Provinces.

The Audience of *GUATIMALA*, South-Eaſt of that of *Mexico*, continues between the Seas *del Nort* and *del Sud*, advancing towards *America Meridionalis*. The Audience of Guatimala, and its Provinces.

There are under it the Provinces of *Guatimala*, *Soconuſco*, *Chiapia*, *Vera Pax*, *Honduras*, *Nicaragua*, and *Caſtorica*: and theſe two laſt lie on both Seas; *Honduras* and *Vera Pax* on the Gulph of *Honduras*, towards the *Mer del Nort*; *Chiapa*, within Land; *Guatimala*, and *Soconuſco*, on the *Mer del Sud*.

The Audience of *MEXICO*, ſo called from its principal City; now known by the name of *Nova Hiſpania*; and by this City of *Mexico* the *Spaniards* began to make themſelves abſolute Lords of all theſe Quarters. Which before their arrival was very populous; but in the ſpace of 16 or 17 years, deſtroyed above ſix Millions of its Inhabitants by cruel and unchriſtian-like deaths, as

roasting some, cutting off the Members of others, putting out the Eyes of others, casting others alive to be torn in pieces and devoured by *wild Beasts*, and the like horrid deaths; and only to act their Tyranny over them, rather than to reduce them to obedience, which might have been otherwise obtained without shedding so much Blood. This City was called by its ancient Inhabitants *Tonoxtitlan*, and was the residence of their Kings, and is at present the fairest of all *America*, seated in the midst of a Lake, in some places 10 Leagues long, and 7 or 8 broad, having 25 or 30 Leagues circuit: It is not joyned to the Main Land, but by 3 Caus-waies, of which, that towards the West is but 3 quarrers of a League long; that towards the North a League and an half, and the last, 3 Leagues. It was by this last that *Cortez* and the *Spaniards* made their approaches, and took the City. All this *Lake* is salt; but there falls into it another almost of the same bigness, which is fresh, and good to drink; both together are 45 or 50 Leagues circuit, in which are said to be about 50000 *Wherries* continually seen to row and carry Passengers; they have about 50 *Burgs* or *Towns* on their Banks, whereof some have once been esteemed great Cities: The salt Lake yields quantity of *Salt*, the other so much *Fish*, that its Fishing hath been farmed for 100000 Crowns yearly. In this City may be found 4000 Natural *Spaniards*, 30000 *Indians* or *Americans*, (there having been formerly 200000) 20000 *Negroes*; and its Jurisdiction contains 250 *Towns*, of which some have their *Schools*; more than 3000 (some say 6000) *Estancia's*, that is, *Farms*; and in all 500000 *Americans* Tributaries. It is the residence of the *Vice-Roy* of *America Septentrionalis*, as also of an *Archbishop*, and many other Officers of Justice of the *Mint*, and of the *Inquisition*. It hath a famous *Academy*, 150 *Monasteries* for the one and the other Sex. It is distinguished (as under its Ancient Kings) into these Quarters, which at present are called that of *St. John*, of *St. Maria the Round*, of *St. Paul*, and of *St. Sebastian*, and of *St. James*, formerly *Tlatelulco*. In this last, which is very great and the fairest, is the Palace of the *Vice-Roy*, the House of the *Archbishop*, the Court of *Audience*, the *Mint*, and other Offices. In this City of *Mexico* is a Cathedral Church, which was begun by *Cortez* with so much haste, that to raise two Columns, for want of Materials they made use of the Stones which had made part of the *Statues* of the Idols. Here is also a *Printing-house*, several Houses of *Jesuits*, *Dominicans*, *Franciscans*, *Augustinians*, and other Religious Orders; some *Colledges*, abundance of *Hospitals*, and other publick Buildings; all of great state and beauty. They have here four things which are remarkable for Beauty, *viz.* their *Women*, their *Apparel*, their *Horses*, and their *Streets*.

The City of *Mexico* described.

The residence of a *Vice-Roy*, &c.

Chulula described.

Among those places which are, or have been on the two Lakes of *Mexico*, *Chulula* is reckoned one of the fairest; scarce excepting that of *Mexico*, with which it in times past contended as well for state as bigness, once containing near 20000 Houses, and beautified with so many *Temples* as there are days in the year. The People were said to be so addicted to Idolatries, and so barbarous in their bloody Sacrifices, that it sacrificed yearly no less than 5000 Infants of both Sexes on its Altars before its Idols. *Tezcuco*, once twice as great as *Sevil* in *Spain*; its Streets are fair and large, its Houses stately and Beautiful, and adorned with many *Conduits* and *Aquæducts*, which furnished them with fresh Water; though seated on the brinks of the Salt-Lake of *Mexico*. *Quitlavaca*, built on divers little Islands like to *Venice*, was joyned to the Continent by a Caus-way made of *Flint-stones* of about a League long, but narrow; called by the *Spaniards*, *Venezuela*, containing about 2000 Houses. *Iztalpalapa*, seated part on the Lake and part on the Banks, with a Paved way to *Mexico*, from which it is distant two Leagues: once a large City, having no less than 10000 well built Houses, which were plentifully supplied with fresh Waters from its many Ponds, as well as its beautiful Fountains. *Queretaro* hath two Fountains, of which one is so hot, that its Waters at first burn, being cold, fatten Cattle; the other runs four whole years continually, and ceases other four whole years; having likewise this property, that it increases in dry, and diminishes in moist and rainy weather. *Mestitlan*, once of good repute, containing

Its Inhabitants

Tezcuco described.

Quitlavaca described.

Iztalpalapa described.

Queretaro described.

Mestitland described.

taining about 30000 Inhabitants, seated on an high Hill, begirt about with pleasant Groves and fertil Plains, which affords excellent Fruits, and very good Grains. *Cuyocan*, of about 50000 Houses, and *Mexicaltzingo* of about 4000, both upon the Lake, were in times of *Paganism* adorned with many beautiful *Temples*, so rich, that at a distance they seemed to be made of *Silver*; but now their lustre is decaied, most of them being converted to Monasteries and Religious Houses. *Acapulco*, a City and Port on *Mer del Sud*, seated on a safe and capacious Bay, full of convenient places or Docks for *Ships* to ride in, so that it is said to be the safest Haven of all those Seas; it is distant from *Mexico* 100 Leagues. The *Mexicans* keep here some Vessels, and trade to the *Philippines*, and to *China*, from whence they are distant 3000 Leagues.

Cuyocan and *Mexicaltzingo* described.

Acapulco described.

The *Air* of *Mexico* is sweet and temperate, though scituate under the *Torrid Zone*, the Heats thereof much qualified by the cooling Blasts, which rise from the Sea on three sides of it, as also by the frequent refreshing Showers, which always falls in *June*, *July*, and *August*, which is their hottest Season of the year: The Soil is so fertil that they gather their Crop twice a year; yet want they good *Wine* and good *Oil* by reason of the Summer-Rains. It is believed, that no Country in the World feeds so much Cattle, some private persons having 40000 *Oxen* or *Cows*, others 15000 *Sheep*, &c. and an infinite number of tame Fowl, as *Hens*, *Turkies*, &c. whence it comes that *Oxen*, *Sheep*, *Goats*, *Hogs*, and *tame Fowl* are hardly worth the buying. Their *Horses* are excellent, the Race coming from the best of *Spain*.

The Air of *Mexico*.

Its fertility.

There are few Mines of *Gold*, though many of *Silver*, about *Mexico*; as those of *Comana*, *Fuchuco*, *Archichica*, *Temozcaltepeque*, *Zacualpa*, *Tasco*, *Imiquilpo*, *Cu Tepeque*, *Talpajava*, *Zumpango*, *Guanaxuato*, and others. And these Mines are not so rich as those of *Peru*; but easier wrought, and with less expence and loss of Men. The principal Riches of the Country, after their *Silver*, *Gold*, *Iron* and *Copper*, are their *Grains*, *Fruits*, *Wool*, *Cotton*, *Sugar*, *Silk*, *Cocheneel*, the grain of *Scarlet*, *Feathers*, *Honey*, *Balm*, *Amber*, *Salt*, *Tallow*, *Hides*, *Tobacco*, *Ginger*, and divers Medicinal Drugs. The Natives of this Country are more ingenious than the rest of the *Savages*, and are much civilized since the *Spaniards* had to do here; they are excellent in many Mechanical Arts, especially in making fine *Pictures* with the Feathers of their *Cincons*, which is a little Bird living only on *Dew*, and place their Colours so well, that the best Painters of *Europe* admire the delicacy, they far exceeding a piece of Painting. They have some memories of their Histories, make use of certain Characters instead of Letters of our Alphabet; their Tongue was extended so far as they could extend their Dominion, though in divers Provinces there were diversity of *Languages*: They are excellent in refining of *Metals*, expert *Goldsmiths*, and curious in Painting upon *Cotton*.

Mines in *Mexico*.

Its Inhabitants

Among their Rarities of this Country there is a most admirable Plant called *Magney*, from which they extract several things; it hath on it about 40 kinds of Leaves, which are fit for several uses; for when they are tender they make of them *Paper*, *Flax*, *Thread*, *Cordage*, *Girdles*, *Shoes*, *Mats*, *Mantles*, *Stuffs*, &c. upon them grow Prickles so strong and sharp, that they make use of them instead of *Saws*, also they serve for *Needles*. The *Bark*, if it be roasted, maketh an excellent Plaister for Wounds; from the top Branches comes a kind of *Gum*, which is a sovereign Antidote against Poyson: from the top of the Tree cometh a Juyce like Syrup, which, if seethed, will become *Hony*; if purified, *Sugar*: they make also *Wine* and *Vinegar* of it, and it affordeth good Wood to build with.

The Plant *Magney*, a very great rarity.

In this Country are two Mountains, one which vomits flames of Fire like *Ætna*, and another in the Province of *Guaxaca*, which sendeth forth two burning streams, the one of *black Pitch*, and the other of *red*. The Kings of *Mexico* were rich and powerful in regard of their Neighbours, having no less than 2 or 3000 Men for their ordinary Guard, and having been able to raise 2 or 300000 Foot; among the 25 or 30 Kings, which were his Tributaries, some could arm 100000 Men; their Revenues vast, which they raised out all Commodities, as well of Natural as Artificial, which the King received in kind, partici-

participating of the Fruits of all Mens labour, and ſharing with them in their Riches. Their Palaces were magnificent, both that within the City, and thoſe in divers parts of the Kingdom; they kept great Attendance, lived in great Pomp, were much reverenced of their Subjects; in their Veſtments ſtately, being adorned with *Gold*, *Pearl*, and *Precious Stones*, wearing a rich Crown reſembling that of a *Duke*; their *Coronations* held with great pomp, at which times they uſed bloody Sacrifices of Men and Children, which for the moſt part were their Enemies, but ſometimes their own; their Temples were ſtately, with many Idols whom they worſhipped; which were attended with abundance of *Sacrificers* or *Prieſts*; and to excite their Souldiers to valour, they uſed three degrees of Honour or Orders of *Knighthood*, which according to their merit were conferr'd upon them; the firſt was diſtinguiſhed by a *red Ribband*, the ſecond called the *Tyger* or *Lion-Knight*, and the third the *Gray-Knight*; which among other things were priviledged to apparel themſelves in *Cotton* in a different habit, and to adorn themſelves with *Gold* and *Silver*, which things are prohibited to others.

The deſcent of the *Mexicans*.

Moreover, the preſent *Mexicans* deſcended not from the Ancient Inhabitants of the Country, but from divers People, which had their reſidence in the North, and not unlikely from that which we call *New Mexico*. The Hiſtory they produce of the manner how they came from theſe quarters at divers times, of the time which the one and the other, and particularly of him whom they laſt employed in their Voyages, thoſe Ceremonies they obſerved, and likewiſe the name of their chief *Mexi*, ſeems to accord ſomewhat with the Voyage of *Moſes* and the *Hebrews*, when he led them to the Land of Promiſe. Theſe People becoming Maſters of *Mexico*, formed a conſiderable Government, and gave it divers Kings. *Montezuma*, under whom *Ferdinand Cortez* entred the Country, was but the ninth in number.

The ſtory of the *Inca-Mango-Capac*, and his Wife *Coya Mama-Oelho*.

The *Inca-Mango-Capac*, and his Wife *Coya Mama-Oelho*, were the firſt that led them to a human and civil life, they made themſelves be believed to be Brother and Siſter; Children of the *Sun* and *Moon*; and that they had been ſent here below for the good of Men. And with this belief they withdrew them from the Mountains, Caves, and Forreſts, and gave them the firſt knowledge of the Law of Nature. *Inca-Mango-Capac* taught Men how to till the Earth, to graft *Plants*, to feed *Flocks*, to gather the beſt *Fruits*, to build *Houſes* and *Cities*, &c. *Coya Mama-Oelho*, learnt Women how to *Spin*, *Weave*, *Sow*, make *Habits*, &c. and above all inſtructed, that their principal care ought to be to ſerve and obey their *Husbands*, and feed and inſtruct their *Children*.

And theſe People finding themſelves in a better and more reaſonable way of living than before, eaſily ſubmitted themſelves to the Government of theſe *Inca's*; addicted themſelves to the Religion they taught them, which was to adore the *Sun*, as that *Star* which above all the reſt did moſt viſible good to *Men*, *Beaſts*, *Grains*, *Fruits*, *Plants*, &c. and ſo ſoon as theſe *Inca's* knew the affection of the People, they raiſed Arms, aſſembled Troops, and reduced to the ſame Government and the ſame Religion many neighbouring People; but ſtill more by ſweetneſs than force: and in the end, compoſed an Eſtate or Empire, which for its greatneſs and riches, and likewiſe for its Laws, was one of the moſt conſiderable of the World. And if we ſhould put in parallel the Politicks of the *Inca's* of *Peru*, or of thoſe of *Mexico*, with them of the *Greeks* and *Romans*; *Acoſta* maintains that theſe would have the advantage, and that the *Inca's* had ſo great a care of the good and repoſe of their Subjects, that there cannot be found in all Hiſtory any *King* or *Emperour* that ever bore himſelf with ſo much ſweetneſs, freedom, and liberality towards his People, as did the *Inca's*, Kings of *Peru* and *Mexico*. So ſoon as a Province entred under their Obedience, they made Channels every where to water the Lands; and that theſe Lands might be the more commodious for Tillage, they cauſed to be laid level what was unequal, evening by degrees what was too ſteep: The Lands proper for Tillage were divided into three parts, *viz.* for the *Sun*, for the *King*, and for the *Inhabitants* of the Country; and if theſe were in

in ſo great number, that the third part of the Land was not ſufficient for their food, ſo much taken from the Third of the *Sun* and of the King, as was needful.

The Lands being equally parted according to the ability of every Family, the labour began with thoſe of the *Orphans*, *Widows*, the old and impotent; and *Souldiers* when they were in War; after theſe, every one laboured and cultivated his own: then thoſe of the *Curacca's* or *Governours*, which were to be after the Private perſons; thoſe of the *King* and of the *Sun* were the laſt. And this Order was ſo religiouſly obſerved, that a Governour having cauſed the Field of a Kinſman of his to be tilled before that of a poor Widow, was hanged in the Field he cauſed to be tilled before its degrees: ſo careful were they of the Poor. Beſides this labour for the Tillage of the Lands of the *Sun* and the *Inca's*, Private perſons were obliged to make *Cloaths*, *Hoſe*, *Shoes*, and *Arms* for the *Souldiers*, as alſo for thoſe whom Age or Sickneſs made incapable of Travel or Labour. The *Wool* or *Cotton* was taken from the Flocks; and on the Lands belonging to the *Sun* and the *Inca's*: and each Province gave only what was eaſie and common, and each Private perſon only his labour: young Men under 25 years, Men above 50: Women and Lame people were exempt from theſe Tributes. They made no account of *Gold*, *Silver*, or *precious Stones*, but for their adornment, beauty, and ſplendor, nor needing wherewith to buy Victuals or Cloaths; their Lands and ordinary Occupation yielding and furniſhing them with what ever was neceſſary. Yet if at their hours of leaſure they could diſcover any, they made a Preſent of it to their *Curaca's*: theſe to the *Inca*, when they went to ſalute him at *Cuſco*, or when the *Inca* viſited his Eſtates; and then it was employed either for the Ornaments of the *Royal-houſe*, or the Temples of the *Sun*. The Temple of the *Sun* at *Cuſco* was ſo ſtately, and enriched with ſo much *Gold*, *Silver*, and *precious Stones*, that it is incredible. In this Temple, beſides the principal Apartment which was for the *Sun*, there was others for the *Moon*, *Stars*, *Lightning*, *Thunder*, *Thunderbolt*, and *Rainbow*, which was the device of the *Inca's*. They eſteemed the *Stars* as waiting-Maids, which followed the *Moon*, and all the reſt Executioners of the Juſtice of the *Sun*; to whom alone they ſacrificed *Sheep*, *Lambs*, *Rabbits*, *Fowls*, *Spices*, *Herbs*, *Habits*, &c. beſides *Men* and *Children*, as was ſaid before. The *Prieſts* of this Temple were all Deſcendants of the *Inca's*. In the Temples of other Provinces it ſufficed, that they were deſcendants of the Priviledged *Inca's*, *Curaca's* or *Governours* of thoſe Provinces. They called Priviledged thoſe to whom the *Inca-Mango-Capac* had communicated this Title for them and their Children; but ordinarily the great Prieſt was *Uncle*, *Brother*, or one of the neareſt kin to the *Inca*.

The Temple of the Sun at *Cuſco*.

Their Sacrifices.

Their Prieſts.

To make appear the Riches in ſome reſpect of this Temple, that which incloſed the divers apartments of the *Sun*, *Moon*, *Stars*, &c. were all wainſcotted with Plates of *Gold*. The *Sun*, placed on his *Arter* towards the Eaſt, was of one Plate of *Gold* much thicker than the others, and the Figure in the ſame manner as our Painters here deſcribe it; *viz.* a round Viſage, environed with Rays and Flames. At the taking of *Cuſco*, this piece, or the Image of the *Sun*, fell to *Maneca ſerra de Lequiſano*, a *Caſtilian*; who being a great Gameſter, loſt it one Night at play; which made it to be ſaid, That he had plaid away and loſt the *Sun* in a dark Night, long before it was day. On the two ſides of the *Sun* were the Bodies of the *Kings* or *Inca's*, deceaſed, ranged according to their times, and enbalmed in ſuch manner that they appeared living: They were ſeated in Thrones of *Gold*, raiſed upon Plates of the ſame, and accommodated in degrees or aſcents: The Bodies of the *Queens* were according to the ſame order in the apartment, and on both ſides the Figure of the *Moon*, where all the *Ornaments*, *Doors*, *Wainſcots*, *Thrones*, &c. were of *Silver*. Near this Temple was a *Garden*, where the *Herbs*, *Plants*, *Flowers*, *Trees*, and where Beaſts of all ſorts, as alſo Birds, even to *Butterflies* and *Flies*, were of *Gold* and *Silver*; and ſo lively repreſented, that they ſeemed Natural. And there were likewiſe of theſe *Gardens* near the Palace of the *Inca's*, and near the

The richneſs of the Temple.

Houſes

Houſes of the Virgins vowed to the *Sun*. In all the Provinces there were Temples of the *Sun*, built after the model of thoſe of *Cuſco*, but not ſo rich: Here the Virgins that vowed to the *Sun* were taken from the *Curaca's*, or the faireſt in the Province: Of theſe the *Inca* or *King* might make uſe; but not of thoſe of *Cuſco*, being reſerved only for the *Sun*, and which the *Inca* himſelf might not ſee. Though theſe *Inca's* and their People adored not, nor made any Sacrifice but to the *Sun*, yet the moſt knowing among them eſteemed, much beyond the *Sun*, the *Pachachamac*, that is, the Author of the *Univerſe*; but whom, not ſeeing, they contented themſelves to adore in their inward parts. They had likewiſe ſome knowledge of the *Deluge*, believing that the Souls could not die, and that the Bodies ſhould revive. Their *Amauta's* or *Philoſophers* addicted their principal ſtudy to the *Morals*, cared little for the *Metaphyſicks*, *Medicine*, or *Aſtronomy*; yet obſerved the *Equinoxes*, the *Solſtices*, and called the *Eclipſes* the Anger of the *Sun*, and the Sickneſs or Sleepineſs of the *Moon*, from which they wakened her by making great noiſes. Their *Poeſies* were on divers honeſt Subjects; their *Comedies* and *Tragedies* on divers accidents of human life, or on the Victories and Triumphs of their *Inca's* or *Curaca's*. But we are entred too far into this matter: The *Inca G. de la Vega* ſaith, that there is Subject to many Volumes if we would recount all obſervable and good in the ancient Government of *Peru*, touching the Order eſtabliſhed, to know the number of Perſons that was in each City and each Province; what was its Revenue; what Forces might be raiſed; touching the *Judges*, the *Curaca's* or *Governour*, and other Officers of Policy or for the Militia; touching the publick Magazins for *Proviſions*, *Cloaths*, and *Arms*; touching their Ceremonies in their *Sacrifices*, in their *Feaſts*, in their *Funeral Pomps*; in their mourning a whole year after the death of their *Kings*; likewiſe in the eſtabliſhment of their *Colonies*; of their *Schools*; of their *Poſt-houſes* on great Rods, which they had built ſo ſtately that the *Romans* had not the like. But, as he ſaith, the beſt of theſe good Laws and Policy was aboliſhed when the *Spaniards* became Maſters of the Country; adding, that if there were Barbariſm before the reign of the *Inca's*, after them the *Spaniards* brought in another worſe than the firſt: The Inhabitants of the Country, for the moſt part, not having what was neceſſary for life, whatever labour or ſervice they rendred their Maſters; who ought to have contented themſelves with the Riches they had reaped, and may yet reap, from the goodneſs of the Country. The ranſom of *Atahualpa*, the pillage of *Cuſco*, and the firſt incurſion which the *Spaniards* made into *Peru*, yielded them the value of 20 Millions of *Ducats*; but *Pizarre* and *Almagre*, the two firſt *Spaniſh Chiefs* which conquered *Peru*, and put to death *Atahualpa*; and in likelyhood *Guaſcar*, likewiſe Brothers and *Inca's*, were ſo blinded with the *Gold* they found, and became ſo cruelly covetous, that each ſeeking to have all, they began between themſelves an unhappy War, and in the end murthered, hanged, ſtrangled, and beheaded one another till there was not left one of them, their Children or Brothers, &c. By which God ſeemed not only to have chaſtiſed their unbridled Ambition and inſatiable Avarice; but to revenge the Blood of the *Inca's* they had unjuſtly ſlain, and their ill treating the *Indians*.

The Opinion of the *Inca's*.

The *Spaniards* great enemies to the *Mineans*.

Province of *Panuco*, and its fertility.

The Province of *PANUCO* is 100 Leagues long, and as many broad, divided by a River of the ſame name into two almoſt equal parts: That which is Southward, and towards *Mexico*, is the moſt fertil and beſt tilled; the other towards the North, and *Florida*, being worſe. Likewiſe, that which approaches the Sea is worth much more than that within Land. The *Caſtilians* have eſtabliſhed only three Colonies, of which St. *Stevan del Puerto* is the Metropolis, ſeated on a River of the ſame name, and 12 Leagues from the Sea; the greateſt Town of Traffick in this Province, built by *Ferdinando Cortez* out of the Ruins of *Panuco*, once the chief City of the Province till deſtroyed by him. Next, St. *Jago de los Valles*, likewiſe on the ſame River, ſcituate on an open Country, and therefore fenced about with a Wall of *Earth*. And, Thirdly, St. *Lewis de Tempico*, ſeated on the North Banks of the River *Panuco*, and near the

Its Colonies and chief places deſcribed.

the Coaſt of the Gulph of *Mexico*. Theſe Colonies are ſo weakned by the incurſions of the Inhabitants, who now knock one on the head, and then another, that the beſt had not above ſixty Native *Spaniards*, *An.* 1600. They have Mines of *Gold* in the Country, which are not wrought; good *Salt-pits*, out of which they draw the greateſt profit, &c.

The Province and Biſhoprick of *MECHOACAN*, between thoſe of *Mexico* and *New Gallicia*, ſtretches on the Coaſt of *Mer del Sud* near 100 Leagues, advances within Land from that Coaſt to the *Zacatecas* near 150 Leagues. Places of moſt note are, 1. *Colina*, ſeated ten Leagues from the Sea, built by *Gonſalvo de Sandoval* in the year 1522. 2. *Zacatula*, on the *Mer del Sud*, and at the Mouth of a River of the ſame name. 3. *Mechoacan*; the Metropolis, which takes its name from the Province ſo called, now the Seat of the *Archbiſhop*. 4. *Zinzouza*, once the Seat of the Kings of *Mechoacan*. 5. *Pazcuaro*, once the Seat of the Biſhop. 6. *Valladolid*, ſeated near a *Lake* as large as that of *Mexico*, once the Seat of the *Archbiſhop*, till removed to *Mechoachan*. 7. *La Conception de Salaga*. 8. *St. Michael*, built by *Lewis de Velaſco*, then Vice-Roy of *Mexico*. 9. *St. Philip*, built by the ſaid *Velaſco* at the ſame time, to aſſure the way going from *Mechoacan* or *Mexico*, to the Silver Mines of *Zacatecas*: this way being often peſtered and frequented by the *Chichimeques*, *Otomites*, *Taraſques*, and other barbarous and as yet unconquered People, who greatly perplex and annoy the People that border upon them. Some place likewiſe in this Province the Cities of *Leon*, of *Zamora*, of *Villa de Lagos*, and about 100 Towns, of which many have their Schools.

The Province of *Mechoacan* and chief places deſcribed.

The Soil of this Province, and its Commodities.

The Soil of this Province is very different, but every where fertil, and in moſt places yields ſuch great increaſe of all ſorts of *Grains*, *Fruits*, &c. that it hardly hath its fellow in the whole World. It produceth likewiſe *Cotton*, *Ambergreeſe*, *Gold*, *Silver*, *Coppers* ſoft and hard; of the ſoft they make Veſſels, of the hard Inſtruments inſtead of *Iron*. They have *black Stones* ſo ſhining, that they ſerve them inſtead of *Looking-Glaſſes*. They have ſtore of *Plants*, *Medicinal Herbs*, *Mulberry-trees*, *Silk*, *Hony*, *Wax*, &c. The Country is ſaid to be ſo healthful, and of ſo ſweet an Air, that Sick people come hither to recover their health. It is well ſtored with *Rivers* and *Springs* of freſh Water, which makes their Paſtures exceeding rich and fat. *Cattle* and *Fowl* are here found in great plenty, and their *Rivers* and *Lakes* afford ſtore of *Fiſh*.

Its Air.

The vertue of the Plant *Gozometcath*.

Between *COLIMA* and *ACATLAN* is found the Plant *Gozometcath* or *Olcacazan*, which takes Blood-ſhot from the Eyes, preſerves the ſtrength of the Body, or reſtores it to the Weak, cures the Tooth and Head-ach, reſiſts all Poyſons; and in fine, is moſt excellent againſt all Diſeaſes. Thoſe of the Country will judge of the event of any Sickneſs whatſoever it be, when they apply the Leaf on the party: If they faſten eaſily, they ſoon hope a cure; but if they reſiſt or fall off, they expect nothing but a great and long ſickneſs or death.

The Province of *Thaſcala* with its Cities deſcribed.

THASCALA, or *LOS ANGELOS*, is between *Mexico* and the Gulph of *Mexico*, from whence it advances unto the *Mer del Sud*, ſtretching it ſelf on the Coaſt of this Sea 25 Leagues; on the other 75, or 80. Places of moſt note are, 1. *Thaſcala*, which gives name to this Province; once the Seat of a Biſhop, and once governed in form of a Common-wealth, and exceeding populous. It had four principal Streets or Quarters, which in time of War were each of them governed by a Captain; and in the midſt of theſe Streets it had a moſt ſpacious Market-place, which was always thronged with People for the negotiating of their Affairs: It is ſcituate on an eaſie aſcent betwixt two Rivers, encompaſſed with a large, pleaſant, and fruitful Plain, about 20 Leagues in compaſs. 2. *Los Angelos*, (or the City of *Angels*,) a fair City, built by *Sebaſtian Ramirez*, *Anno* 1531, now the *Biſhops* Seat. 3. *Vera Crux*, built by the ſaid *Cortez*, being a place of great concourſe by reaſon of its near ſcituation unto the Gulph, from whence it is a thorough-fare to the City of *Mexico*, which is diſtant from it 60 Leagues. Its Port of St. *Joan de Ulva*,

Ulva, though but bad, is in some esteem, being the best on the *Mer del Nort*; and held more commodious than that of *Mexico*. 4. *Zempoallan*, seated on a River of the same name, the Inhabitants whereof did *Ferdinando Cortez* good service in his conquest of *Mexico*. Beside those Towns or Cities, they count in this Bishoprick or Province 200 *Towns*, 1000 *Villages*, and 250000 *Indians* under its Jurisdiction, which are exempted from all extraordinary charge and imposition, because of their assisting the said *Cortez* in his conquest of *Mexico*.

The fertility of the Province.

The Country is more hot than cold, fruitful in *Corn*, *Mayz*, *Sugar*, *Wine*, *Fruits*; feeds much *Cattle*, full of rich *Pastures*, well watered with fresh Streams. In the Valley of St. *Paul* was a Country man possest of 40000 *Sheep*, which were the product of only two, which were brought him from *Spain*. The Inhabitants are much of the same nature and condition with those of *Mexico* aforesaid.

The Province of *Guaxaca*, with its chief places described.

GUAXACA is between the *Mer del Nort* and *Sud*. The Plain of the Province makes a Lozenge, whose 4 sides are each 75 Leagues, or little more. Its Cities are, 1. *Antequera*, a Bishoprick, and which sometime communicated its name to the Province. It is seated in the Valley of *Guaxaca*, and adorned with stately Buildings, and beautified with a magnificent *Cathedral Church*, whose Columns are of *Marble*, and of a prodigious height and thickness. 2. *St. Jago*, seated in the Valley of *Nexapa*, but upon a lofty Hill. 3. *St. Ilefonso*, on a Mountain in the Province of *Zapoteca*. 4. *Spiritu Sancto*, in the Quarter and on the River of *Guaxacoalco*, near the *Mer del Nort*. 5. *Cuertlavaca*, of note for a *Labyrinth*, not far distant, hewed out of a Rock. 6. *Aquatulco*, a noted Port on the *Mer del Sud*, well frequented by those who transport the Merchandizes of *Europe* and *Mexico* to *Peru*; a place of great Riches till plundered by those two eminent Travellers *Drake* and *Cavendish*, both *Englishmen*; besides those places, there is said to be 300 Towns, and as many *Estancia's* or *Hamlets*, which are inhabited by the Natives of the Country, which pay Tribute to the *Spaniards*.

The fertility and commodities of this Province.

The divers Quarters of this Province are all fertil, not only in *Grains*, but also in *Fruits*, *Cocheneil*, *Silk*, *Cassia*; and the Earth well stored with Mines of *Gold*, *Silver*, and other Metals, and almost all the Rivers stream down *sand-Gold*. Here is also a kind of *Almond*, which they call *Cacao*, which they make use of instead of Mony.

The Province of *Tavasco* described.

TAVASCO is only a Coast of an 100 Leagues long, between *Guaxaco* and *Jucatan*, scarce 25 Leagues broad between the Province of *Chiapa* and the Sea; the Country is full of *Pools* and *Marshes* towards the Coast, *Wood* and *Forests* towards the Mountains; and the *Rains* being continual for 8 or 9 Months in the year, the Air is very humid; and its scituation being much under the *Torrid Zone*, it engenders an infinite number of *Vermin*, *Gnats*, and *Insects*; yet the Soil is excellent, abundant in *Mayz* and *Cocao*, which is their principal Riches.

Its fertility and commodities.

There is observable here but one Colony of the *Spaniards*, which they call *Villa de Nuestra a Sennora de la Victoria*, so called because of the Victory *Cortez* gained in 1519 against those of the Country, when he went to the Conquest of the Kingdom of *Mexico*. It was called *Potonchan* when it was besieged, taken and sacked by *Cortez*; and it is observed, this was the first City in *America* which defended it self, and which suffered under the *Spaniards* Sword.

Its chief Colony.

The Province of *Jucatan*, with its chief places described.

JUCATAN is the last Province of the Audience of *Mexico* towards the East. It is a *Peninsula* of about 400 Leagues circuit, scituate between the Gulphs of *Mexico* and *Honduras*. The *Isthmus* which joyns it to the Main Land, is not above 25 or 30 Leagues over, from whence the Country continues enlarging it self from 50 or 75 Leagues breadth, and ends at *Cape de Cotoche*, which regards towards the East *Cape St. Anthony* in the Isle of *Cuba*, at the distance of 60 and odd Leagues.

The Coasts of *JUCATAN* are very much cumbred with little Isles, which often prove dangerous for Ships; but covered with abundance of *Sea-Fowl*, which those of the Neighbouring and far distant Countries come to chase.

The Isle of *Cozumel*.

The Isle of *Cozumel*, to the East, hath formerly been famous for its Idol *Cozumel*, which all the People of the Neighbouring Continent went to adore.

And

And it was in this Isle, or the Continent near unto it, that *Baldivius* unfortunately saved himself, having been Shipwreckt near *Jamaica*, he had taken a little Boat (like to those used by Fisher-men, wherein going with about 20 of his Men, he was brought hither by the Sea; but no sooner had he set foot on Land, but he and his Men were seized by the Natives, who immediately led them to the Temple of their *Idols*, where they presently offered up, or sacrificed and ate him and four of his Men, and the rest they reserved till another time.

The Misfortune that befel *Baldivius* here.

Among these, *Aquilar*, who had seen the Ceremony, escaping with some others, fled to a *Cacique*, who treated him courteously for many years, during which time some died, others married in the Country. *Aquilar* in the end was fetched thence by *Cortez*, who was of no small use unto him in his Conquest of *Mexico*, because that he had learned their Tongue.

The Air of *Jucatan*.

The Air of *Jucatan* is hot, the Country hath scarce any Rivers, yet wants no Water, being supplied every where with Wells; within the middle of the Land are to be seen quantity of Scales and Shells of *Sea-fish*, which hath made some believe the Country hath been overflowed.

What it yieldeth.

They have scarce any of the Corn or Fruits of *Europe*, but some others of the Country; and quantity of *wild Beasts*, principally *Stags* and *wild Bears*; and among their Fowls, *Peacocks*. They have yet found no *Gold*, much less *Latten*; which makes it appear, that it is not true, that the *Spaniards* found here Crosses of *Latten*, there being none in all *America*.

Its Cities.

The Cities of *Jucatan* are four, *Merida*, *Valladolid*, *Campeche*, and *Salamancha*. 1. *Merida*, is the Metropolis, being the Seat of the Bishop and Governour for *Tavasco* and *Jucatan*, distant from the Sea on each side 12 Leagues: The City is adorned with great and ancient Edifices of *Stone*, with many Figures of Men cut in the Stones; and because they were resembling those which are at *Merida* in *Spain* that name was given it. 2. *Valladolid*, beautified with a very fair Monastery of *Franciscans*, and more than 40 thousand *Barbarians* under its Jurisdiction. 3. *Campeche*, scituate on the shoar of the Gulph; a fair City of about Three thousand Houses, and adorned with many stately and rich Structures, which in 1596 was surprized and pillaged by the *English*, under the Command of Captain *Parker*; who carried away with him the Governour, the Riches of the City, and many Prisoners; besides, a great Ship laden with *Hony*, *Wax*, *Campeche-Wood*, and other rich Commodities.

The Conquest of the Kingdom of *Mexico* was much easier to the *Castilians* than that of *Peru*; the Kingdom of *Peru* being Hereditary, and its *Inca's* loved, and almost adored by their Subjects; the Kingdom of *Mexico* being Elective, and its Kings hated, if not by those of *Mexico*, yet by all the neighbouring Estates, and envied by those might aspire to the Royalty. This diversity was the cause that *Motezuma* died, and the City of *Mexico* taken, there was nothing more to do or fear as to that Estate. In *Peru*, after the death of *Guascar* and *Atabalipa*, and some other *Inca's*, the *Spaniards* could not believe themselves safe so long as there was any remainder of the Race of these *Inca's*; which made them under divers pretexts persecute, banish, and put them to death. And so much for *Mexico* or *New Spain*.

The Audience of GUADALAJARA, or NEW GALLICIA.

THE Audience of *GUADALAJARA*, or Kingdom of *NEW GALLICIA*, makes the moſt Occidental part of *New-Spain*, and contains the Provinces of *Guadalajara*, *Xaliſco*, *Los Zacatecas*, *Chiametlan*, *Culiacan*, and *New-Biſcany*; ſome others add *Cibola*, and others likewiſe *California*, *Quivira*, *Anian*, &c. that is, the *Caſtilians* pretend to extend their Power to the farthеſt part of this New World.

Its Provinces.

The Province of *Guadalajara*, and its Cities deſcribed.

The Province of *Guadalajara* hath only two Cities or Colonies of *Spaniards*, viz. *Guadalajara*, and *Sancta Maria de los Lagos*, of which, the firſt is the chief of the Province, built in 1531 by *Nonnez de Guzman*, after he had finiſhed his Conqueſt. It is the reſidence of the Kings Treaſurers; dignified with the Courts of *Judicature*, the See of a *Biſhop*; beautified with a fair *Cathedral Church*; a Convent of *Auguſtine Friers*, and another of *Franciſcans*. It is ſcituate in a pleaſant and fruitful Plain, and watered with divers *Fountains* and little *Torrents* not far from the River *Baranja*; the neighbouring Mountains having furniſhed them with Materials for their Buildings. *Santa Maria de los Lagos* was built by the ſame *Guzman*, and made a place of great ſtrength, only to hinder the Incurſions of the *Chichimeques*, who are a barbarous and untamed ſort of People, who border upon them towards the North-Eaſt; who live upon the Spoils of other people, harbouring in thick Woods and private Caves for the better obtaining their Prey; which ſaid Town keeps them in ſuch awe, that they dare not moleſt them.

The Air of this Province. The Inhabitants, &c.

The Air of this Province is temperate and ſerene; except it be in their Summer, which is much troubled with Rains. The People (as generally throughout all *Gallicia*) are craſty, very docil in matters of Religion, inconſtant, impatient of labour, much given to pleaſures, delight in ſtrong Drinks; their habit for the moſt part is a Shirt of *Cotton*, over which they wear a Mantle, which they faſten about their Shoulders: They are of a good Stature, and well proportioned, little ſubject to ſickneſs, nor knowing what the Plague is, they ordinarily living 100 years. The Country is rather Mountainous than Plain, well furniſhed with Mines of *Silver*, *Copper*, *Lead*, and *Margaſites*, &c. but none of *Gold*, *Iron*, or *Steel*: The Plains tilled yield ordinarily 100 for one of Corn, and 200 for one of *Mayz*; they have much *Pulſe*, many *Olive-trees*, whoſe Fruit is often ſpoiled by the *Ants*, as their Grains are by *Pies*. Theſe *Pies* are no bigger than our *Sparrows*, but in ſuch quantity that where they alight, in a little time they devour the whole Crop. Almoſt all the Fruits of *Europe* are here found in great plenty, which for goodneſs ſurpaſs thoſe of *Spain*. Their *Paſtures* likewiſe are rich, and feed abundance of Cattle.

Its fertility and commodities.

The Province of *Xaliſco*.

In the Province of *XALISCO* are the Cities of *Compoſtella*, the Metropolis of the Province, built by the ſaid *Guzman*; once a *Biſhops See*, till removed to *Guadalajara*; built in a Plain, but ſo barren, that it will ſcarce produce food either for Man or Beaſt, and with the diſadvantage of ſo bad an Air, that made it to be ſoon left. *La Purification*, a ſmall City, built alſo by the ſaid *Guzman*, ſeated near the Port of *Natividad* on the Sea-ſide. And laſtly *Xaliſco*, ſo called from the Province; once of ſome account till deſtroyed by the ſaid *Gazman*.

The Provinces of *Chiametlan*, *Culiacan*, and *Cinaloa* deſcribed.

North-Eaſt of *Guadalajara* and *Xaliſco* are the Provinces of *CHIAMETLAN*, whoſe chief City is St. *Sebaſtian*, ſeated on a River of the ſame name; nigh to which are many rich *Silver Mines*. The Province of *CULIACAN*, whoſe chief Cities are St. *Michael*, ſeated on the River of *Women*, built by *Guzman*, and *Piaſtla* ſeated on a River ſo called, about two days Journey from the Sea; well built, and of good eſteem till the great damage it received from the *Spaniards* in their Conqueſt. And laſtly, the Province of *CINALOA*, whoſe

whoſe chief City is St. *John*, an ancient Colony of *Spaniards*. There are every where rich Mines of *Silver*, plenty of *Proviſions*, *Fruits*, *Mayze*, *Pulſe*, and *Cotton*: their Inhabitants are great, ſtrong, and warlike; and particularly in *Cinaloa*, where they have made the *Spaniards* abandon the City of St. *John*, who have rebuilded other-where that of St. *Philip* and *Jacob*.

The provinces of *Los Zacatecas* and *New Biſcany*.

North of *Guadalajara* are the Provinces of *LOS ZACATECAS*, and new *BISCANY*. Account is made of four Colonies in *Los Zacatecas*: 30 Towns and 4 famous Lodges near the Mines, of which the principal are *Los Zacatecas*, inhabited by *Spaniards*, who have here a Convent of *Franciſcans*. *Avino*, *Sombrarino*, *St. Martin*, and poſſibly St. *Luke*. The Cities are *Xeres de Frontera*, *Erena*, *Nombro de Dios*, beſides that in the Iſthmus of *Panaman* and *Durango*. There are no Cities ſpoken of in *New Biſcany*, but only excellent Mines of *Silver*, at St. *John*, *Sancta Barbara*, and at *Endes*, which they eſteem the beſt, built only for the benefit of the *Silver* Mines, which the *Spaniards* enjoy. The *Zacateca's* want both Water and Food, except towards *Durango* and *Nombro de Dios*: *New Biſcany* hath *Cattle* and *Grain*. All theſe Provinces hitherto are not only of the Audience, but likewiſe of the Biſhoprick of *Guadalajara*.

Above, and Northward of *New Gallicia* and the Audience of *Guadalajara*, we have quantity of People and Provinces little known: we call them in general *New Mexico*, becauſe eſteeming theſe quarters likewiſe under the name of *Mexico*, they make that part of *Mexico* lateſt known; others paſs them all under the name of *New Granada*, and place here the City of *Granada*, which *Herrera* makes in *Cinaloa*, others in *Cibola*, and others in the Kingdom of *Mexico* taken particularly: ſo little aſſurance is there of the Relations of theſe quarters. However, here is obſerved divers People very different in their Languages, Manners, and Cuſtoms; ſome having fixed and ſettled Habitations, others wandring after their Flocks: among the firſt there are ſome that have many Cities, ſome containing in them about 30,40, or 50 Thouſand Inhabitants, and in theſe Cities the Houſes are built of Stone ſeveral Stories high. *New Mexico*, taken particularly, hath 10 or 12 of theſe Cities, whoſe Houſes have their Chambers, Halls, Parlours, and other Conveniences, very populous; among which the City called *New Mexico* is the chief, diſtant from *Old Mexico* about 500 Leagues, being the reſidence of the Governour, where the *Spaniards* keep a Garriſon, and have changed its name to St. *Fogie*. *Cibola* hath ſeven Cities, each of 3, 4, or 500 Families, and (with thoſe which remain in the Field) may make likewiſe 8 or 10 thouſand Men. All theſe Inhabitants are addicted to War, their Country tilled, and abounding in all Victuals.

New Mexico deſcribed.

Province of *Cibola*.

QUIVIRA hath not many Houſes, nor over ſtored with People, and thoſe that do inhabit here are very rude and barbarous; the Men cover their Bodies with the Skin of an Ox ill accommodated, the Women only with their Hair, which they wear ſo long, that it ſerveth them inſtead of a Veil to hide their nakedneſs: they live almoſt altogether on Raw-fleſh, which they devour rather than eat, ſwallowing it without any chewing: They live in Hoords or Troops, reſembling thoſe of the *Tartars*; not having any certain abode, but remove from one place to another, ſtaying where they find good Paſture for their Cattle.

The Province of *Quivira* deſcribed. Its Inhabitants

ANIAN is yet poorer than *Quivira*: the *Spaniards* have long ſince over-run both the one and the other, but finding nothing of worth, neglected them; but after all, there are Opinions much contrary, touching the temperature, fertility, and ſcituation of theſe two Provinces; ſome making them cold and barren, others temperate and good.

The Province of *Anian* deſcribed.

CALIFORNIA hath a long time been eſteemed to be only a *Peninſula*; but the *Hollanders* having taken on theſe Seas a *Spaniſh* Veſſel, which had rounded it, and made the *Chart* of it, who ſaw that it was an Iſle, which extends it ſelf from South-Eaſt to North-Weſt, and from the *23th degree* of *Latitude*, to beyond the *45th*, lying along the Weſt ſide of *America*. Its length is of 7 or 800 Leagues: Its breadth under the *Tropick* of *Cancer*, not above 20 or 25 Leagues; from whence it ſtill enlarges it ſelf unto 150 Leagues towards

California deſcribed.

wards the 40*th degree* of *Latitude*. The Air hath been found Cold, though in a ſituation which ought to render it more hot than temperate. The Country ill peopled, they fiſh for *Pearls* in *Mer Vermejo*, and on the Eaſt of the Coaſts of *California*, and likewiſe along and on the Coaſts of *New Granada*, or *New Mexico*.

Mark de Niza, a Franciſcan, his Relations of this place.

Mark de Niza, a *Franciſcan*, made a Voyage into theſe parts in 1529, and at his return recounted Marvels of what he had ſeen and underſtood; of People that wore about their Heads pieces of *Mother* of *Pearl*, of divers Provinces rich in *Gold*, of Cities and Houſes well built, whoſe Gates were adorned with *Turquoiſes* and other Stones. That the chief City of *Cibola* was greater than *Mexico*: That the Kingdoms of *Marata*, *Acu*, and *Tonteac*, were likewiſe very rich and powerful.

Alſo the deſcription of theſe parts by Vaſque de Cornada.

The Relation of this *Fryar* cauſed *Mendoza*, Vice-Roy of *Mexico*, to ſend *Vaſque de Cornada*, Governour of *New Gallicia*, to ſearch out the truth. Who, far from finding the Riches he hoped for, found only people naked, very poor, rude and barbarous; ſome Cities he found indifferently well built, but ſadly furniſhed; aſſuring us that the Kingdoms of which the *Fryar* had made ſo much account of were almoſt all Imaginary. *Tonteac* being only a Lake, about which there were ſome few Habitations: *Marata* a thing inviſible, and *Acu* a beggerly Town, in eſteem amongſt them, only gathered ſome *Cotton*. Poſſibly the *Fryar* ſaid more than he had ſeen, that he might incite the *Spaniards* to ſend ſome Colonies hither, and have the Means to convert thoſe People: And *Cornada* leſs, becauſe he found not that preſent profit which he did in his Government: however it be, this contrariety, with thoſe we have obſerved touching the City of *Granada*, and the Provinces of *Quivira* and *Anian*, may make us ſee how dangerous it is to truſt thoſe that come from parts ſo remote and unknown, whatever ſpecious or fair Habit they wear, or whatever good Tongue they have, or whatever proteſtations they make of Truth.

The Audience of GUATEMALA.

THE Audience of *GUATEMALA* is between the Seas *Del Nort*, and *Sud*; and between divers *Iſthmus's* and *Tongues* of Land, which are found in the moſt Southernly part of *America Septentrionalis*. Its Provinces are *Guatemala*, *Soconuſco*, *Chiapa*, *Vera-Pax*, *Honduras*, *Nicaragua*, *Coſtarica*, and *Veragua*.

Its Provinces.

The Province of Guatimala, with its Cities, deſcribed.

GUATEMALA and *SOCONUSCO* are on the *Mer del Sud*, *Chiapa* within Land; *Vera-Pax* and *Honduras* on the *Mer del Nort*; *Caſtaria*, *Nicaragua* and *Veragua*, on both Seas. *Guatemala* hath 150 Leagues along the Coaſt, and advanceth within Land 30 or 40 Leagues. Here were built the Cities of *St. Jago*, of *Guatemala*, *St. Salvador* or *Curcatlan*, *La Trinidad* or *Conzonate*, *St. Michael*, and *Xeres de la Frontera* or *Chuluteca*; they are all upon, or little diſtant from the Sea: *Guatemala* is more advanced within Land, and yet the principal, being the Seat of the Biſhop and Court of *Audience*. In 1541 this City was almoſt overwhelmed by a deluge of boyling Water, which deſcending from that *Vulcan* which is above and near the City, threw down, and tumbled over all that it met with, as *Stones*, *Trees*, and *Buildings*; where it ſtifled many People, and among the reſt, the Widow of him who had conquered and ſo ill treated that Province. The City was rebuilt farther to the Eaſt, and may have near 100 Houſes, about 1000 Inhabitants, and its Country about 25000 *Indians* Tributaries. A certain private Perſon had once a ſtrange phancy came in his head, that there was a very rich Mine of *Gold* in this *Vulcan* of *Guatemala*, and that he needed but to find ſome way to put down a *Cauldron*, and draw out what he could wiſh for, as one doth Water out of a Well; he undertook the enterprize, and cauſed to be made great Chains of *Iron*, and a great *Cauldron*, ſo ſtrong, that he believed the fire could not damage it; he cauſed a way to be made to carry to the

A ſtrange phancy of a private Perſon in theſe parts, and the event thereof.

the top of the Mountain his *Chains*, *Cauldron*, and *Machins*, which were to ſerve to let down and draw up his *Cauldron* full of *Gold*, which he believed to coyn at the bottom of the Mountain; but he found the Fire ſo violent, that in leſs than a moment of time he had neither *Chains* nor *Cauldron*. Which ſo perplexed him with grief and ſhame to ſee his own folly; having not only ſpent all his own Eſtate, but the beſt part of his Friends; ſo that he would have precipitated himſelf into the Mountain, had he not been hindred; but in a ſhort time he died for anger and grief.

The fertility of this Province, with its Commodities and Trade.

The Country is colder than the ſcituation may bear, and ſubject to *Earthquakes*; hath excellent *Balms*, liquid *Amber*, *Bezoar*, *Salt*, *Grains*; is full of rich *Paſtures*, which are well ſtocked with *Cattle*, plenty of *Cotton Wool*, excellent *Sulphur*, ſtore of *Medicinal Drugs*, and abundance of *Fruits*; among others *Cacao* in ſuch great plenty, that it yearly lades many Veſſels, which are tranſported to other places. The Country is more inclining to Mountains than Plains, but well watered with Rivers. The People are puſillanimous and fearful; the Men are expert at the Bow, and the Women at the Diſtaff: they are more civil, and embrace *Chriſtianity* more than their neighbouring Countries do, and are willing to receive Advice from the *Spaniards*, who are their Maſters.

Its Inhabitants.

The Province of Soconuſco deſcribed.

SOCONUSCO hath only the little City of *Guevetlan* on the Coaſt, and nothing of particular or worthy to be noted in it; only it hath ſome *Grains*, feeds ſome *Cattle*, its Rivers have *Fiſh*, and its People more barbarous and rude.

The Province of Chiapa deſcribed.

CHIAPA is not over fertil in *Grains* nor *Fruits*, but the Country well cloathed with lofty Trees, and ſome of which yield *Rozin*, others *precious Gums*, and others bear Leaves, that when they are dried into powder make a Sovereign Plaiſter for Sores. The Country is full of *Snakes*, and other venemous Creatures. Places of moſt note in this Province are 1. *Ciudad-Real*, built by the *Spaniards*, ſcituate in a round Plain at the Foot of a Hill, and begirt with Mountains reſembling an *Amphitheater*; now the reſidence of a Biſhop, and governed by City-Magiſtrates, by them called *Alcaides*. 2. *Chiapa*, ſeated in the fruitfulleſt Valley of the whole Country. 3. *St. Bartholomews*, remarkable for having near it a great Pit, or opening of the Earth, into which if any one caſts a Stone, though never ſo ſmall, it makes a noiſe ſo great and terrible as a clap of Thunder. 4. *Caſapualca*, a ſmall Town, but famous alſo for a Well it hath, whoſe Waters are obſerved to riſe and fall according to the flowing and ebbing of the Sea.

Its chief places.

Some memorable actions of Bartholomew de las Caſas Biſhop of Chiapa.

Among the Biſhops of *Chiapa*, one was *Bartholomew de las Caſas*, of the Order of *St. Dominique*, who having ſeen the Cruelties with which the *Spaniards* treated the People of *America*, endeavoured by divers Remonſtrances to hinder it for the future, and to that end went into *Spain*; but finding no redreſs, wrote and printed a Treatiſe of their Cruelties, which was endeavoured to be ſuppreſt; but ſome Copies eſcaping, were tranſlated and reprinted in *Italian*, and other Languages.

The Spaniards cruelty towards the Natives.

There are in this Relation things that can ſcarce enter into the belief of man; He makes account, that in divers parts of *America* and its Iſles, the *Spaniards* had put to death in his time (which was fifty years after their Invaſion of it) 12 or 15 Millions of Perſons, by ſeveral cruel and unchriſtian-like Deaths, as by *Fire*, *Hunger*, *Boiling* of them, impaling them; by the *Halter* and *Sword*, as alſo in exceſſive Labours in the working in their Mines, in carrying of heavy Burthens, like *Horſes*, and the like Cruelties. He alſo ſaith, that they treated thoſe that remained worſe than Slaves, nay, worſe than Beaſts; cutting off the Ears of ſome, others Noſes or Hands; ſometimes cutting them alive into pieces and quarters to feed their Dogs, and learn them to devour theſe poor *Americans*; and if they found one of theſe Dogs killed, or a *Spaniard* knockt on the head in the Field, they would hang up a dozen of theſe miſerable People, in honour (as they ſaid) of the *Twelve Apoſtles*, or elſe put the neighbouring Country to Fire and Sword. He ſaith, that it was ordinary with them to abuſe *Boys*, to deflour *Virgins*, and to raviſh *Women*, whom

whom they ſold afterwards for a *Cheeſe*: and oft-times a hundred *Men* and *Women*, and ſometimes five hundred and more, for an *Aſs* or a *Horſe*. He obſerves, that a certain *Chacique* having eſcaped out of *Hiſpaniola* into *Cuba*, to ſhun the cruelty of the *Spaniards*, they becoming after Maſters of *Cuba*, and this poor *Chacique* falling into their hands, they condemned him to the Fire, where being incited by a *Fryar* to turn *Chriſtian*, that at leaſt after this life he might be ſaved in *Paradiſe*; when he underſtood that it was a place that the *Spaniards* went unto, he would not be a *Chriſtian*, nor go thither, ſo much he dreaded them. And he affirms, that the moſt part of theſe *Murthers*, *Burnings*, and *Pillages*, were voluntarily done to terrifie others, and make themſelves abſolutely obeyed; which they might as well have gained by fair means and gentle uſage. But let us rerurn tc what concerns our Audience.

Remarkable Fountains.

Near *Chiapa* are ſeveral Fountains, which have ſome ſingularities; as that aforeſaid, which riſes and falls with the flowing and ebbing of the Sea, though far from it. Another, that for three years together increaſes, though there be never ſo little Rain; and for three years after diminiſheth, though there be never ſo much: and ſo continues from three years to three years. Another there is, that falls in Rainy-weather and riſes in dry. And there is another that kills *Birds* and *Beaſts* that drink of it; yet cures thoſe Sick which demand violent Remedies. But we ſhould ſwell too large, if we ſhould ſpeak of all Singularities found in *America*.

The Province of *Honduras*, with its chief places, deſcribed.

HONDURAS and *NICARAGUA* are two great Provinces. *Honduras* is more than 200 Leagues long, and near 100 broad. *Nicaragua* little leſs. *Honduras* communicates its name to the Gulph which lies on *Mer del Nort*: Its chief places are, 1. *Valladolid*, of near an equal diſtance between the two Seas, ſcituate in a pleaſant and fruitful Valley, and on the banks of the River *Chamalucon*. 2. *Gratias di Dios*, ſcituate on a high ground, 30 Leagues Weſtward of *Valladolid*, and near the rich Mines of *Gold* of *St. Piedro*, and ſerveth for a place of defence for thoſe that work in the Mines, againſt the *Savages*. 3. *St. Juan del porto de los Cavallos*, once a famous Port, but through its Ruins is uninhabited. 4. *Truxillo*, ſeated on the aſcent of a little Hill betwixt two Rivers, in a rich and fruitful Soil, with the benefit of an excellent Port. 5. *St George de Olancho*, ſeated in the Valley of *Olancho*, noted for the *Golden Sands* that the River *Guayape* was ſaid to yield. The Country hath pleaſant Hills, and fruitful Valleys for *Grains*, *Fruits*, and rich *Paſtures*: It is well furniſhed with *Rivers*, hath Mines of *Gold* and *Silver*; but its greateſt profit is made by *Wool*, which it tranſports to other places.

The fertility of the Province, with its commodities.

The Province of *Nicaragua* deſcribed.

NICARAGUA hath five Colonies of *Spaniards*; the Country is deſtitute of Rivers, except that part which is towards *Veragua*, called *Coſta Rica*; the want whereof is ſupplied by a great *Lake* which ebbs and flows like the Sea. Upon its Banks are ſeated many pleaſant Cities and Villages, which are inhabited by the *Spaniards* and *Indians*; a Lake well ſtored with Fiſh, and as full of *Crocodiles*. The Air of the Country is healthful, though hot, the Soil fruitful and pleaſant; it hath *Fruits*, *Cows*, *Hogs*, *Sheep*, *Turkies*, *Pullain*, and ſo many *Paroquets* that they are hurtful: It yieldeth not much *Grain*, it hath plenty of *Cotton-Wool* and *Sugar-Canes*, and towards *Segovia* are ſome Mines of *Gold* and *Silver*. Its Inhabitants are of a good ſtature, active, very comformable to the *Spaniards* as well in Behaviour as Apparel. Its chief places are, 1. *Leon*, ſcituate on the aforeſaid *Lake* in a Sandy ſoil, but begirt with Woods: It is the reſidence of the Governour, as alſo the Seat of a Biſhop. 2. *Grenada*, on the ſame Lake, beautified with a fair Church and a ſtrong Caſtle, ſeated in a fruitful Soil, and well ſtored with *Sugar-Canes*. 3. *Jaen*, ſeated at the end of the ſaid *Lake*. 4. *Segovia* the New is farther within Land, rich in Veins of *Silver*. 5. *Realeijo*, near the *Mer del Sud*, having the benefit of a good Port, by reaſon of which it is inhabited for the moſt part by *Shipwrights*, *Mariners*, and thoſe that depend upon Naval Affairs.

Its fertility in its Fruits, Cattle, Fowl, &c.

Its Inhabitants

Its chief places.

COSTA-

COSTARICA, and *VERAGUA*, are the two moſt Eaſtern Provinces of the Audience of *Guatemala*. In *COSTARICA* are the Cities of *Carthage*, ſeated between two Seas, where there are ſome places, which ſerve it for Ports: *Aranjues* and *Nicoya* are on the *Mer del Sud*, *Caſtro de Auſtria* within Land.

The Province of Coſta Rica deſcribed.

VERAGUA, hath towards the Eaſt the *Iſthmus* of *Panama*, and was once under the Chamber of *Panama*; though this City be eſteemed in *America Meridionalis*, and *Veragua* in the *Septentrionalis*: There are placed in this Province four or five Cities of *Spaniards*, *viz.* 1. *La Conception*, ſeated on the *Mer del Nort*, and is the Reſidence of the Governor. 2. *La Trinidad*, ſeated alſo on the ſaid Sea. 3. *Sancta Fe* within Land, being the place where the *Spaniards* melt, refine, and caſt their *Gold* into Barrs and Ingots. 4. *Carlos*, ſeated on the *Mer del Sud*. And 5. *Parita*, ſeated on the ſaid Sea.

The Province of Veragua deſcribed.

The Country both of the one, and the other Province, is rude, mountainous, and little fertil, only for *Mayze* and Pot-herbs. In ſupply thereof, they have exceeding rich Mines of *Gold* and *Silver* in their Mountains, and *Sand-gold* in their Rivers; but there remain yet ſome Natives in theſe quarters, who ſtill moleſt and annoy the *Spaniards*, killing and eating them when they can catch them.

The Iſles ANTILLES, *or* CAMERCANES.

BEtween the two *America's Septentrionalis*, and *Meridionalis*, and before the *Gulph* of *Mexico*, are abundance of Iſlands of different greatneſs; *HISPANIOLA*, and *Cuba* are the greateſt; *Jamaica*, *Boriquen*, and others of the middle ſort; the reſt, much leſs.

Hiſpaniola. Chriſtopher Columbus the firſt diſcoverer of this Iſle.

HISPANIOLA, is in the middle of theſe Iſles: near 200 Leagues from Weſt to Eaſt; and 50 or 60 from South to North. *Chriſtopher Columbus* was the firſt that made diſcovery of this Iſle, in his firſt Voyage that he made in 1492. being conducted thither by ſome of the Inhabitants of *Cuba*. There remain 10 Colonies of *Spaniards*, of which, 1. *St. Domingo* (built by *Bartholomew*, Brother to *Chriſtopher Columbus*) is the chief, pleaſantly ſeated, its houſes well built, which for the moſt part are of Stone, its Haven is large and ſafe for Ships to ride in, it is enriched by the Reſidence of the *Governour*, the Court of *Audience*, the *See* of an *Arch Biſhop*, the Chamber of *Accounts*, the *Treaſury Court*; and, beſides many Convents of Religious Houſes, an *Hoſpital* endowed with a large yearly Revenue, a place of great Trade, till the taking of *Mexico*, and the diſcovery of *Peru*; ſince which time it hath much decayed, nor hath it yet recovered it ſelf of the great loſs and damage it ſuſtained by Sir *Francis Drake*, in 1586. It now being Inhabited by not above 2000 Families, of which about 600 are Natural *Spaniards*, the reſt *Meſtiz*, *Mulatts*, *Negroes*, and *Canaries*. *Porto de la Plata* holds the ſecond place by reaſon of its Commerce, and is well ſeated on a commodious *Bay*. Then 3. *St. Jago de los Cavallieros*, for the beauty of its ſcituation. 4. *El Cotuy* for its Gold Mines. 5. *Salvaleon de Tquey* for its *Sugars* and *Paſtures*. 6. *Azua* likewiſe for its *Sugars*, being a noted Haven. 7. *St. Maria del puerto* for its *Caſſia*. 8. *Monte Chriſto* for its *Salt*. 9. *La Conception de la Vega*, the foundation of *Chriſtopher Columbus*, for whoſe ſake it was made an *Epiſcopal See*, which at preſent is united to *St. Domingo*; and the laſt of the ten Colonies is *El Zeybo* ſeated on the Sea ſhore, but of ſmall account.

Its Colonies.

This Iſle ſtocked by the *Spaniards*.

So ſoon as the *Spaniards* were Maſters of this Iſland, they cauſed to be brought from *Spain*, *Grains*, *Fruits*, and *Beaſts* of all ſorts. The *Grains* would not thrive in the Plains, by reaſon of the richneſs of the ſoil, the ſtalks taking away all the force of the ſeed; but when they found out the reaſon, they ſowed them on hills, and there where the land was lean; ſo that then they yielded a great increaſe. The *Fruits* became excellent; and the *Beaſts* multiplied in ſuch manner, that they grew wild for want of proper owners, being hunted to death by

any one, only for their skins. The *Sugar Canes* brought from the *Canaries* yielded exceeding great profit. The Country for the most part flourishing and beautiful, the *Trees* and *Meadows* being alwaies in their Summer livery: and the soyl so fertil, that in the space of sixteen or eighteen daies, *herbs*, and *roots* will come to their perfection and ripeness, but the Mines of *Gold*, *Copper*, and other *Metals* which remained, are no longer wrought; the *Spaniards* having consumed and perished in them, not only the most part of the antient Inhabitants of this Country, but likewise of the Neighbouring Isles.

The Isle of *Cuba* described.

The Isle of *CUBA* is longer and streighter than *Hispaniola*, near 300 Leagues from West to East, and from South to North, only twenty five or thirty almost every where, so that in Continent, these two Isles are almost equal, their qualities are likewise in many things correspondent, as in their *Grains*, *Cattle*, and *Fruits*. The Air of *Cuba* is healthful, and its Forrests furnished with the best Wood, for building of Ships: It feeds store of *Pullein*, *Pigeons*, *Tortells*, *Partridges*, *Flamengo's*, Whose feathers are white when little, and of many colours when grown great. Its *Rivers* stream down more *Gold*, than those of *Hispaniola*: Its Ports likewise greater and more safe; but yet there are more Rocks and Banks about *Cuba* than *Hispaniola*. For the greatness of the Isle, it hath but few Cities, the chief of which are *St. Jago*, seated in the bottom of a capacious Bay, about two Leagues from the Sea, whose Port is esteemed one of the best of all *America*; being the seat of a *Bishop*, who holds from the *Arch Bishop* of *St. Domingo*; and beautified with a *Cathedral Church*, and some *Religious houses* near the City, and from the *Sierra de Cobre* they fetch *Copper*, yet the City is much ruined, and hath little trade. Towards *Baracoa*, its Mountains yield *Ebony* and *Brasile*; it hath this inconveniency that its Port cannot receive great Vessels. The goodness of the Air the fertility of the Soil, and a pleasant Plain hath made St. *Salvador* the best place of the Island, where they have a great trade; though off from the Coast. Near *Porto del Precipe*, a Haven-Town in the North parts of the *Isle*, there are *Fountains* of *Bitumen* which they make use of instead of *Pitch*, to caulk their Ships, and the *Indians* for divers Medicines.

Its Fowls.

Its chief places described with some of their rarities.

The Port of *Havana*, having its entrance streight and deep, receives the *Ocean* in form of a *Gulph*, capable to receive a thousand Vessels, and secure them from the fury of the Sea, or Winds. The two *Capes* which include it, have their Castles to defend the entrance, and a third joyning to the City regards the opening of the Port; the *Ships* which return from *New Spain* into *Europe*, assemble together at *Havana*, where they are furnished with all things necessary either for *Food* or *War*; and dispose themselves to depart by the month of *September*, passing by the Channel of *Bahame*, which carries them into the *Ocean*.

Twenty five Leagues from *Havana*, towards the East, is the Port of *Matanca's*, that is *Massacres*; for that once those of the Country here slew some *Spaniards*. In 1628 *Piet's Heyn*, General for the *West India* Company, surprized the Fleet returning to *Spain*, and carried it in to the *West India* Company: It was loaden with *Silver*, *Silk*, *Cocheneil*, *Hides*, *Cassonade* or *powder Sugar*, and divers other Merchandizes, all of great value: This Prize was esteemed worth near seven Millions of crowns; yet this great service was but very ill recompensed by the *Governours* of the said Company.

A Vast Prize taken by *Pitters Heyn*.

Jamaica described.

JAMAICA is an *Isle* of a large extent being from East to West 170 miles in length, and from North to South where it is broadest about 70, being of an Oval form, and waxing narrower and narrower at both extream ends. It is seated betwixt the *Tropicks* in the 17 and 18 *degrees* of *Northern Latitude*, and neareth from off the Isle of *Hispaniola* Eastwards about 35 Leagues. In the midst of the Isle from East to West runs a continued ridge of lofty *Mountains* which are well stored with fresh *Springs*, whence flow the many Rivers that so plentifully water the *Island*, to the great benefit of the Inhabitants. The Air is observed to be more temperate than any of the *Caribe Isles*, and of as mild a temperature as any place betwixt the *Tropicks*, being alwaies refreshed with cool breezes

Its situation, Extent.

Well watered.

breezes, frequent *showers*, and great *dews* in the nights; that it may be deemed Temperate, and by its continual verdure exceeding delightful. The weather is less certain than in the *Caribe* Isles, the most observable wet seasons are in *November* and *May*, there being no seemable *Winter*, but by a little more *rain* and *thunder* in the Winter months; nor is there scarce any sensible lengthning or shortning of the Days or Nights. *Hurricanes* are here never known. This Isle in most parts (especially the North) is of a Fertil and rich soil, and liberally answers the *Cultivators* cost and pains for what is planted: The chief *Commodities* that it produceth are *Sugars*, which are so good that they out sell those of the *Barbados* 5 *s. per cent*; *Cocao* the richest Commodity of the *Island*. *Indico*, *Cotton*, *Tobacco* but indifferent, *Hides*, *Copper*, great variety of Woods for *Dyers*, also *Cedar*, *Brasilletto*, *Lignum vitæ*, *Ebony*, &c. *Tortoises* in exceeding great plenty, whose flesh is excellent good and nourishing, but those that are troubled with the *Frenchman* it is dangerous to eat; *Salt*, *Salt-Peter*, *Ginger*, *Cod-pepper*, *Piemente* being an excellent *Aromatick spice*, of a curious *gusto*, having the mixt tast of divers Spices; *Cocheneil*, divers excellent *Druggs*, *Gumms*, and *Balsoms*, many of which are not yet known by their names. Here are greater abundance of *Cattle*, than in most of the *English* Plantations, as *Horses*, *Cows*, *Hoggs*, *Sheep*, *Goats*, *Negroes*, *Mules*, which came from the breed of those put into the Woods by the *Spaniards* when they were first Masters of the *Island*, which for want of Masters became wild; but since the *English* have had to do here they are much wasted to what they were. The *Bays*, *Rivers*, *Roads* and *Creeks*, are well stored with excellent *Fish* of sundry sorts appropriate to the *Indies*. Likewise great store of *Fowl* both tame and wild, the chief of which are *Ducks*, *Teal*, *Wigeon*, *Geese*, *Turkyes*, *Pigeons*, *Hens*, *Plovers*, &c. Here are great plenty of excellent *Fruits*, as *Oranges*, *Cocarnuts*, *Pomegranates*, *Limes*, *Guavers*, *Mammes*, *Alumee-Supotas*, *Avocatas*, *Cashoues*, *Prickle-Apples*, *Prickle Pears*, *Grapes*, *Sower sops*, *Custard-Apples*, *Dildoes*, *Plantains*, *Pines*, &c. And *Herbs*, *Roots*, and *Flowers* common to *England* grow here very well. Here are very noxious Beasts or Insects found, those most dangerous are the *Alegators*, some of which are fifteen and twenty foot long; here is also *Manchonele* which is a kind of *Crab*, likewise *Snakes* and *Guianas*, but not poysonous; as also *Muskettoes*, and *Merry-wings*, a sort of stinging Flies found very troublesome to the Inhabitants. The Diseases that Strangers are most incident unto are *Dropsies* (occasioned by ill Dyet, Drunkenness, and Sloathfulness) *Calentures* too frequently the product of Surfeits, also Fevers, and Agues; but it is experimentally found that if a good Dyet and moderate Exercises are used, without excess of Drinking, they may enjoy a competent measure of health; and the reason of the great mortality of the Army at their arrival, was the want of Provisions, together with an unwillingness to labouror exercise, joyned with discontent. This *Island* is divided into Fourteen Precincts, Divisions or Parishes, many of which are well Inhabited, especially the Southern part, so far as the ridge of Mountains, which runneth in the midst, nor are its Southern parts (especially near the Sea) without Plantations, though not so thick as about St. *Jago*; and of late years the Island is much increased in its Inhabitants and Plantations, being likely to prove the Potentest Colony the *English* are Masters of in *America*, being able to bring into the Field upon occasion about eight or ten thousand men. This Isle abounds with goods *Bays*, *Roads*, and *Harbours*, the chief amongst which are *Port Royal* formerly *Cagway*, seated on the extream end of that long point of Land which makes the *Harbour*, which is exceeding commodious for Shipping, and secured by a strong Castle, and land lock't by a point of land that runs twelve miles South-East, from the main of the *Island*, having the great River that runs by *los Angelos* and St. *Jago*, falling into it, where Ships do commonly water, and conveniently wood. The *Harbour* is two or three Leagues broad in most places, with good Anchorage, and so deep, that a Ship of one thousand Tun may lay her sides to the Shoar of the point, and load and unload with Planks afloat, which commodiousness doth make it much resorted

The Weather.

Its fertility and commodities.

Great plenty of Cattle.

Fish.

Fowl.

Fruits.

Herbs and Roots.

Hurtful things.

Diseases.

Its division in to Precincts or Parishes.

Its chief places. *Port Royal.*

unto, and as well Inhabited by the *Merchants*, *Store-house-keepers*, and other Inhabitants, this being the only noted place in the Isle for Traffick and resort, being said to contain about 12 or 1500 well built houses, which are as dear rented as if they stood in well traded streets in *London*; yet its situation is very unpleasant and uncommodious, having neither *Earth*, *Wood*, or *fresh water*, but only made up of a hot loose sand, which renders it more unhealthful than up in the Country, and Provisions are very dear, about 12 miles up in the Land from this Town is St. *Jago*, or St. *Jago de la vega*, which when the *Spaniards* were Masters of it was large, containing about 2000 houses, which were destroyed and reduced to about 500, when the *English* first seized the *Isle*, and here the Governour resideth, and where the chief *Courts* of *Judicature* are held, which makes it to be well resorted and inhabited, where they live in great pleasure, recreating themselves in their Coaches and on Horseback in the evenings in the *Savana* near adjoyning, as the Gentry do here in *Hide-Park*. The present Governour is his Excellency *Charles* Earl of *Carlisle*, Viscount *Howard* of *Acorpeth*, Lord *Dacres* of *Gilsland*, one of the Lords of his Majesties most Honourable Privy Council, a person for prudence and noble qualifications every way befitting such a place. Six miles Southward of this Town is seated *Passage* at the mouth of the River, which at six miles course falleth into the Harbour of *Port Royal*; it contains about twenty houses only serving for the conveniency of passage from *Port Royal* to St. *Jago*. Its other places are *Port Morant* in the Eastern point, a very capacious and secure Harbour, and hereabout is a Potent Colony of the *English* seated. *Old Harbour* a good *Bay* for Ships to ride in. *Port Negril* in the extream Western point, very commodious and secure to windward, in which Men of War do often ply when they look for the *Spanish Ships*; not far from which place was seated the old Town of *Melilla*, founded by *Columbus*. *Port Antonio*, seated on the North, a very safe Land lock't Harbour, at the mouth of which lyeth a small *Isle* wholly taken up by the said Earl of *Carlisle*; with divers other good *Bays* and *Harbours* along the Coast. Its other chief places are *Sevilla*, seated in the North part of the *Isle*, once beautified with a *Collegiate Church*, whose Chief bore the title of *Abbot*, amongst whom was *Peter Martyr*, who described the History of the *West Indies* by *Decades*. And *Mellilla*, seated on the North East, where *Columbus* mended his Ships at his return from *Veragua*.

St. *Jago*.

Passage.

Port *Morant*.

Old *Harbour*.
Port *Negril*.

Port *Antonio*.

Sevilla.

Mellilla.

This *Island* was of considerable importance to the *Spaniards*, by reason that all his *Plate-Fleet* which comes from *Carthagina*, steer directly for St. *Domingo* in *Hispaniola*, and from thence must pass by one of the ends of this Isle to recover *Havana*, which is the common Rendezvous of this whole *Armado*, before it returns home through the *Gulph* of *Florida*; nor is there any other way, whereby to miss this *Island*, because he cannot in any reasonable time turn it up to the windward of *Hispaniola*; which though with great difficulty it might be performed, yet by this means he would lose the security of his said united *Fleet*, which meet at *Havana*, from all the parts of the *Bay* of *Mexico*, *Nombre de Dios*, and elsewhere, accompanying each other home.

BORIQUEM, is little less either in Circuit, or Fruitfulness than *Jamaica*. St. *Juan del Puerto Rico* is the Residence of a *Bishop*, and a *Governor*: It hath an excellent *Port*, which sometimes communicates its name to the *Island*: *El Arricibe*, and *Guadianilla* or St. *Germain*, are the other Cities; all the *Isle* hath few *Ports*, it is traversed by a Chain of Mountains, which cut it from West to East; here is found a *white Gum*, which they use instead of *Pitch*, to caulk their *Ships*; and instead of *Tallow*, to make *Candles*; and for want of other *Medicaments*, for *Wounds* and *Sores*, besides its *Gold*, *Sugars*, and *Gayac*; it hath many *Salt-Marches*. These four Isles are the greatest, and chiefest of the *Antilles*; the rest are numerous, and ought to be considered under the names of the *Lucays*, and *Caribes*. The *Lucays* are North of *Cuba*, and *Hispaniola*; of which, *Lucayon* is the chief, the greatest, and the most Northernly of all; *Bahama* gives its name to the Channel, which is between

The Isle *Boriquem*, with its chief places described.

twe en the Isles and *Florida*; a Channel so rapid, that, in despite of the Winds, it carries Ships from South to North, or rather from South-West, to North-East. *Guanahani* is the first Land which *Columbus* discovered near *America*, and named it St. *Salvador*, because he had been in danger to have been cast into the Sea by his own men, in the fear they had, that they should find no Land.

The CARIBE ISLES.

THe *CARIBES* or *CANIBALS ISLANDS*, are so called from its Native *Inhabitants*, who were *Canibals* or *Man eaters*, and these are a great Body of Isles forming a Demy-Circle towards *America Meridionalis*, the chief of which are set down in the *Geographical Table*, and which I shall take notice of, and first with *Barbados*.

BARBADOS, the most considerable Colony the *English* are Masters of amongst all the *Caribe Isles*. Its scituation is in the North *Latitude* of 13 *degrees* 20 *minutes*; and although but of a small Circuit, not exceeding eight Leagues in length, and 5 in breadth where broadest, yet it is a Potent Colony, and able on occasion to Arm about 10000 Fighting men, which with the natural strength of the Isle, is able to give resistance to the powerfullest Foe. It is exceeding fertil, bearing Crops all the year long, and the trees always cloathed in their *Summer* livery, but the two seasons for Planting is in *May* and *November*, but the *Sugar Canes* are Planted all the year round. And here are found to grow in great plenty excellent *Fruits*, as *Oranges* both sweet and sower, *Pomgranates*, *Citrons*, *Lemmons*, *Limes*, *Macows*, *Grapes*, *Juniper Apples*, *Momins*, *Acosaus*, *Papayers*, *Monbains*, *Icacos*, *Raysins*, *Cherries*, *Cocos*, *Indian Figgs*, *Plantins*, *Bonawes*, *Guavers*, *Castard Apples*, *prickle Pears*, and *Apples*, *Millons*, both land and water, and *Pine Apples*, the rarest Fruit in the *Indies*. They have great plenty of *Fish* and *Fowl*, common with *Jamaica* and other places in the *Indies*, and have also a competent stock of *English Cattle*, and *Horses*, but something dear, by reason they imploy their Grounds better than to breed upon; and most *roots*, *herbs*, and *seeds*, and *flowers* common with us in *England* are found to thrive, and grow very well. The *Commodities* that this Isle produceth are *Sugars*, *Indico*, *Cotton*, *Wool*, *Ginger*, *Fustick*, and *Logwood*, but especially, *Sugar*, *Indico*, *Cotton*, and *Ginger*; lading yearly therewith 200 sail of Ships both great and small, to the great enrichment of the *Inhabitants*, and profit of *England*. This Isle lying so near the *Equinoctial Line*, cannot but be hot, yet not so but that travel and labour is sufferable, and that occasioned by the cool breezes of wind which riseth with the *Sun*, and bloweth fresher as the *Sun* mounteth up. And the Air is found very moist, so that all *Iron-tools* are much subject to rust. This *Isle* is not over plentifully watered with *Rivers*, or fresh *Springs*, there being but one that may appropriate that name, or rather a *Lake* which runneth not far into the Land, notwithstanding which defect the *Inhabitants* have no want of water, for the Land lying low, and even, there are several Ponds, and most houses have Wells or Cisterns, which holds the rain water. And here is a River called *Tuigh-River*, remarkable for that on the top of the water is gathered an Oyl which is made use of to burn in *Lamps*. Amongst the *Trees* here growing, (which for the most part are appropriate to the rest of the *Caribe Isles*) those of most note are the *Cedar*, *Redwood*, *Mastick*, *Locust*, the *Iron-wood tree*, also the *Cassia Fistula*, *Coloquintida*, *Tamarind*, *Cassavie*, of which is made their Bread, the *Poyson tree*, and the *Physick Nut*, also the *Calibash*, the *Shell* of whose Fruit serveth like *Goards* to carry liquid things in; the *Mangrass tree*, the *Roucou*, of whose Bark is made Ropes, as also Flax which being spun is imployed to several uses; the *Lignum Vitæ*, and the *Palmeto*. Here are several *Insects* and *Animals*, as *Scorpions* as big as *Rats*, but no waies hurtful, *Lizards* so harmless that they frequent the houses,

Barbados.

Its strength.

Fertility.

Fruits.

Fish and Cattle.

Commodities.

Its Trees.

Its Insects and Animals.

ſes, and love the company of men; *Land Crabs* in great abundance which are good to eat. Alſo *Muſkettoes*, *Cockroches*, and *Merrywangs*, which are very troubleſom in the night in ſtinging.

Its Diviſion and Towns.] This Iſle is ſevered into Eleven *Precincts* or *Pariſhes*, in which are fourteen *Churches* and *Chapels*; beſides many places which may not improperly be called Towns, as compoſed of a long and ſpacious ſtreet, and beautified with fair houſes, and of late years the whole Iſle is ſo taken up, that there is no ſuch thing as any waſt ground. Its chief *Towns* are 1. St. *Michaels*, formerly called the *Bridge Town*, or *Indian Bridge*, ſeated at the bottom of *Carliſle Bay* which is very deep, capacious, and ſecure, fit to give Harbour for about 500 Veſſels at one time. The Town is large and long, containing ſeveral Streets, and graced with above 500 well built Houſes. It is very populous, being the Reſidence of the *Governours*, the place of *Judicature*, and the *ſcale* of *trade*, where moſt of the *Merchants* and *Factors* in the Iſle have their *ſtore-houſes* for the negotiation of their affairs, in the ſupplying the Inhabitants with ſuch Commodities as they have occaſion of, in exchange of theirs the product of the Iſle. For the ſecurity of the Ships here are two ſtrong *Forts* oppoſite to each other, with a *Platform* in the midſt which commands the *Road*, all Fortified with great *Guns*, *&c.* 2. *Little Briſtol* formerly *Sprights Bay*, hath a commodious Road for Ships, which is ſecured by two powerful Forts, and is a place well reſorted unto. 3. St. *James* hath the conveniency of a good Road for Ships, which is well ſecured by a large *Platform* and Fortified *Breaſt-works*; It is a Town of a good *trade*, well Inhabited and the more, as being the place where the Monthly Courts for the Precinct is kept. And 4. *Charles Town*, ſeated on *Oyſter Bay*, well ſecured by two ſtrong *Forts* with a *Platform* in the midſt; this Town having the accommodation of a weekly *Market*, and being the place where the Monthly Courts are kept for the Precinct, makes it to be well Inhabited, and frequented. Its ſtrength. This Iſle is of a great ſtrength as well by Nature as Art, being ſheltered with Rocks and Shoals, and where it is not thus defended by nature it is fortified with *Trenches* and *Rampiers*, with *Palliſadoes*, *Curtains*, and *Counter-ſcarfs*, and for its further Defence hath three *Forts*, one for a *Magazine*, and the other two for *Retreats*; they have alſo a ſtanding *Militia*, conſiſting of two Regiments of Horſe, and five of Foot; which are alwaies to be ready at Its Inhabitants, beat of *Drum*, or ſound of *Trumpet*. The Inhabitants of this Iſle may be ranged under three ſorts, *viz. Maſters*, *Chriſtian Servants*, and *Negro-ſlaves*, which are very numerous. The *Maſters* for the moſt part live at the height of pleaſure. The *Servants* after the expiration of five years are Freemen of the Iſle, and employ their times according to their *abilities*, and *capacities*; and the *Negro-ſlaves* are never out of *Bondage*, and the Children they get are likewiſe perpetual Slaves. Theſe poor creatures, although they have ſuch extream hard uſage for Dyet, Apparel, or Lodging, and are held to ſuch hard labour, and ſo ill treated by their *Maſters* or *Overſeers*, yet are well enough contented with their conditions, and where they meet with kind Maſters think nothing too much to do for them, ſo that it is great inhumanity and pity to wrong them. Every *Sunday*, (which is the only day of reſt to them, and ſhould be ſet apart for the Service of God) they employ either in getting of the Bark of Trees, and making of Ropes with it, which they truck away for Shirts, Drawers, or other conveniencies, or elſe ſpend the day in *dancing*, *wreſtling*, or other *meriments*.

Iſle of St. Chriſtophers deſcribed. St. *CHRISTOPHERS*, ſo called from *Chriſtopher Columbus* the firſt diſcover thereof, ſeated in the *Latitude* of 17 *degrees* 25 *minutes*. In Circuit about 75 miles; the *ſoil* is light and ſandy, and very apt to produce ſeveral ſorts of *Fruits*, *Proviſions*, and Commodities, as *Sugar*, *Tobacco*, *Cotton*, *Ginger*, *&c.* This Iſle by reaſon of its ſeveral great and ſteep Mountains (in the midſt from which ſpring the Rivers which plentifully water the Land, many of which are hot and ſulphurous) with horrid *Precipices*, and thick *Woods*, renders it impaſſable through the midſt. On the Sea ſide is a *Sult pit*, not far from which is a ſmall *Iſthmus* of Land, which reacheth within a mile and a half of

of the Iſle of *Nevis*. This Iſle is very delightful, and of a moſt delectable Proſpect, for if the Eye be directed downwards from the top, it hath a proſpect of curious *Gardens*, which gently deſcend to the *Sea* ſide; and in regard of the continual aſcent of the *Iſle*, the lower ſtage or ſtory doth not debar the eye of the pleaſant proſpect of that which lyeth at a remoter diſtance, which is terminated by thoſe high *Mountains*; and that which makes the proſpect the more delectable in the ſeveral *Plantations*, are the fair *houſes* covered with glazed Slate. This Iſle is divided into four *Cantons* or *Quarters*, two of which are poſſeſſed by the *Engliſh*, and two by the *French*, which parts are not ſo well watered as thoſe of the *Engliſh*, but better for *Tillage* and not ſo *hilly*. The *Engliſh* have two fortified places, one commanding the great *Haven*, and the other a deſcent not far from *Point de ſable*, and the *French* have four ſtrong *Forts*, the chief of which Commands the Haven and is called *Baſſe Terre*. And for the better ſecurity of each other, conſtant guard at their *Forts* are kept. In the parts belonging to the *Engliſh*, are five *Churches* for Divine Worſhip. The chief place belonging to the *French* is at *Baſſe-Terre*, being a Town of a good bigneſs, and garniſhed with well built *houſes*, where the *Merchants* have their *ſtore-houſes*, and is well Inhabited, here is a large and fair *Church*, alſo a *publick Hall* for the Adminiſtration of Juſtice, a fair *Hoſpital* for ſick people, and a ſtately *Caſtle*, which is the reſidence of the *Governor*, of a moſt pleaſant ſcituation on the foot of a high Mountain not far from the *Sea*, having ſpacious Courts, delightful *walks*, and *Gardens*.

Nieves deſcribed. *NIEVES*, or *MEVIS* not far from St. *Chriſtophers* as before noted; of a ſmall extent not exceeding 18 miles in Circuit; In the midſt of the Iſle is a Mountain of a great height, but of an eaſie acceſs, and well clothed with *wood*, and about this Mountain are the *Plantations* which reach to the *Sea-ſhoar*. Here are divers ſprings of freſh water, and one of a hot and Mineral quality, not far from whoſe Spring head are *Baths* made, which are much reſorted unto. It is indifferent fertil, and hath ſtore of *Deer* and other Game for *Hunting*, and is found to produce the ſame *Commodities* as the reſt of the *Caribe Iſles*. It is a well Governed Colony of the *Engliſh*, and its Inhabitants which are eſteemed about 3 or 4000 live a good quiet and contented life, and free from want of *Food*, or *Rayment*; for Divine Worſhip here are three *Churches*, and for its ſecurity hath a Fort and a publick *Store-houſe*. This Iſle (as the reſt of the *Caribe's*) is troubled with *Muſcheto's*, *Chigos*, *Murigoins*, and other *ſtinging Flies*, which are found troubleſom to the Inhabitants.

Antego. *ANTEGO*, an Iſle about 6 or 7 Leagues in length, and as much in breadth in many places; it is ſeated in the *Latitude* of 16 *deg.* 11 *minutes*, it hath ſome few Springs of freſh water, but hath many *Ciſterns* and *Ponds* for the preſerving of *Rain water*; It is encompaſſed with Rocks which makes its acceſs difficult and dangerous. Here are plenty of wild Fowl, and Fiſh, nor is there any want of tame *Cattle*. It is in the Poſſeſſion of the *Engliſh*, but thinly Inhabited, not exceeding 8 or 900.

St. *Vincent*. St. *VINCENT*, ſeated in the *Latitude* of 16 *deg.* about 20 miles in length, and 15 in breadth, of a fertil ſoil, yielding abundance of *Sugar Canes*, which grow naturally without planting; It affords many ſafe Roads and convenient Bays for Shipping, is well watered, but the *Engliſh* who are Maſters of it, have made as yet no great ſettlement.

Dominica. *DOMINICA*, ſeated in the *Latitude* of 15½ *deg.* about 12 Leagues in length, and 8 in breadth; It is very Mountainous, but hath fertil Valleys affording good *Tobacco*, which is the chief Commodity. It is a Colony of the *Engliſh*, but not conſiderable.

Monſerat. *MONTSERAT*, In the *Latitude* of 17 *deg.* a ſmall Iſle of about 10 miles in length, and leſs in breadth, very Mountainous, but interlaced with fertil Valleys. It is much Inhabited by the *Iriſh*, who have a *Church*.

Anguilla. *ANGUILLA*, in the *Latitude* of 18 *deg.* 21 *min.* about 10 Leagues in length, and 3 in breadth: It is a poor beggarly Iſle, Poſſeſſed by about 2 or 300 *Engliſh*, but ſaid not worth the keeping.

Barbada. *BARBADA*, in the *Lat.* 17 ½ *degree*, an Isle of no great extent, not exceeding 15 miles in length; of a fertil soil, yet of no account to the *English* who are Possessors thereof.

Sancta Crux. *SANCTA CRUX*, Inhabited by the *French*, the Isle is woody and mountainous, and not well provided with fresh waters, and of no considerable note.

Guadaloupe. *GUADALOUPE*, about three Leagues in length, possessed by the *French*, of good *Anchorage* in most parts of the adjoyning Sea, and of some note for its fresh water, which it furnisheth *Ships* with in their necessity, to finish their Voyages.

Grenada. *GRENADO*, but a small Isle (being not above six miles in length) in form of a *Cressent*, the two horns being not above a mile asunder, it is possessed by the *French*, said to be of a fertil soil, and well clothed with Woods, and hath a commodious Haven.

And now I shall be bold to say that *Hispaniola*, *Cuba*, and the Neighbouring *Isles*, answer to the *Hesperides* of the Antients. All agree that the *Hesperides* were 40 daies sail from the *Gorgades*, and the *Gorgades* only two from the Coast of *Africa*. The *Isles* of *Cape Verde* answer to the *Gorgades*, as we have made appear in *Africa*. From these *Isles* to those of *Hispaniola*, and *Cuba*, is at present 25 or 30 daies sail, which may well be 40 of the Antients; and moreover there is no *Isles* in the *Atlantick Ocean* beyond these. And when the Antients place these *Hesperides* in one *Gulph* alone, as *Capella* doth, or in more, as *Solinus* doth, they seem to mean the *Gulph* of *Mexico*, which contains many other lesser. And if *Pliny* seems to make account but of two *Hesperides*, and others of many more, *Pliny* understands *Hispaniola* and *Cuba* alone, in regard of which the rest are little considerable; *Solinus* and *Capella* intend in general the body of these *Islands*. But let us proceed to *America Meridionalis*.

AMERICA MERIDIONALIS.

The degrees of Latitude, and Longitude of *America Meridionalis*. *AMERICA MERIDIÓNALIS* is the most Southern part, or *Peninsula* of *America*; which extends it self from about the 12 *degree* on this side of the *Æquator*, unto the 54 beyond it, which are 66 *degrees* of *Latitude*: and from the 291, or 92, where is *Porto Viejo*, unto about the 350, where there is *Cape St. Augustin*, which are 57, or 58 *degrees* of *Longitude*. It reaches then from South to North, 1650 Leagues; from West to East, little less than 400.

Its bounds. Its bounds on the North and East, are the *Mer del Nort*: towards the South the *Magellanick Sea*; And on the West, the *Mer del Sud*, or *Pacifick Sea*.

Its form approaches near a Triangle, whose sides are almost equal; from *Porto Viejo* to *Cape St. Augustin* are 1400 Leagues; from *Cape St. Augustin*, to *Cape Freeward* in the middle of the streight of *Magellan*, are 1500 Leagues, and from that *Cape* to *Porto Belo*, 1600. Its scituation is for the most part under the *Torrid Zone*, part under the *Antartick temperate Zone*; of that which is under the *Torrid Zone*, the greatest part is beyond the *Æquator*, the less on this side; so that the greatest part of these people have their seasons contrary to ours. The Coasts of this Country are all known more or less, the Inlands very little.

America Meridionalis divided into parts. *AMERICA MERIDIONALIS* may be divided into *PERUVIANA*, and *BRASILIANA*, subdividing *Peruviana* into *Terra Firma*, and *Peru*; and *Brasilidna*, into *Brasile*, and *Paraguay*; the first division is taken by a line which from the mouth of the *Amazona*, goes to seek the utmost part of *Chili* towards the South, and this line divides *America Meridionalis* into two equal parts; the one belonging almost wholly to the *Castilians* alone, and the other for the most part to the *Portugals*: These have their *Vice-Roy* in St. *Salvador*, a capital City in the *Bay* of *All-Saints*, and almost in the middle of the Coast of *Brazile*; the other in *Lima*, or *Los Reyes*, that is, the Kings, at present a capital City, and in the middle of the Coast of *Peru*. We

We may yet divide the *Terra Firma*, into *Terra Firma* and *Guiana*; *Peru* into *Peru* and *Chili*; *Brazil* into the Coast of *Brazil*, and Main Land of *Brazil*; *Paraguay* into *Paraguay*, and the *Magellanick Lands*. Of this *America Meridionalis*, *Brazil* possesses all that is towards the East; *Terra Firma*, and *Guiana*, that which is towards the North; *Paraguay* and the *Magellanick Lands*, that which advanceth towards the South; and *Peru* and *Chili* are towards the West, in regard of *Brazil* and *Paraguay*. The *Castilians* possess almost all *Terra Firma*, nothing at all in *Guiana*; they hold *Peru* and *Chili* between the *Andes* and *Mer del Sud*, scarce any thing beyond those Mountains; besides their *Vice-Roy*, who resides at *Lima* or *Los Reyes*, they have established in what they possess, many *Archbishopricks*, *Bishopricks*, *&c.* for the rule of the Church; many *Audiences* and Seats of *Justice*, for the Secular and Civil Power; and many Governments for the *Militia*. Parts possessed by the *Castilians*.

The Archbishops and their Suffragans. The *Archbishops* are those of *Lima*, in *Peru de la Plata*, in *Los Charcas*, and of *St. Fe de Bogota*, in the new Kingdom of *Granada*. The *Archbishop* of *Lima* hath for Suffragans the Bishops of *Cusco*, *Quito*, *Arequipa*, *Truxillo*, and *Guamanga*, all in *Peru*. The Archbishop *de la Plata* hath for Suffragans the Bishops of *Baranca*, or *Sancta Crux* in *La Sierra*, *Cividad della Pax* in *Chiquiago*, St. *Jago del Estero* in *Cucuman*, *Buenos Ayres* in *Rio della Plata*, *Nostra Sacra de l' Assumption* in *Paraguay*, *Panama* in *Terra Firma*, or *Castilla del Oro*, St. *Jago del Estremadura*, and the Imperial in *Chili*. The Archbishop of *Sancta Fe de Bogota* in new *Granada*, hath for Suffragans the Bishops of *Popayan*, of *Carthagena*, and of St. *Martha* in their Provinces of the same name.

In the Dioceses of the Archbishops and Bishops are a very great number of *Parishes*, *Chapels* of *Ease*, *Monasteries*, *&c.*

The Audiences under the *Vice-Roy* of *Peru* have formerly been those of *Panama* in *Terra Firma*, of *Sancta Fe de Bogota*, in the new Kingdom of *Granada*; of *Quito* and *Lima* in *Peru*, *de la Plata* in *Los Charcas*, and *de St. Jago de Estremadura* in *Chili*: That of *Panama* and of *Chili* subsists no longer, but are reduced into Governments. Of these Governments there are here eleven, *viz. Panama*, *Carthagena*, *St. Martha*, *Popayan*, the new Kingdom of *Granada*, *los Quixos*, *Passamoros*, *los Charcas*, *Tucuman*, *Chili*, and *Rio de la Plata*. *Peru*, wherein are *Lima*, *Quito*, and *Cusco*, is not among these Governments, but depends immediately on the Vice-Roy.

But before we leave *America Meridionalis*, let us speak a word or two touching that part which is towards *Mer del Sud*, there is found a great diversity between that near this Sea and that within Land: that which is nearest the Coast is for the most part plain, and above the Plains are many Hills, or rather Mountains; after these Mountains there are other Plains and beautiful Vallies, and then Mountains almost inaccessible, which are those that bound *Chili* and *Peru* towards the East. It scarce rains in the Plains, often in the first Mountains, sometimes between the two ranks of Mountains; and snows often between the two last Mountains: The Soil of the Plains of the first Mountains and of those between the two ranks of Mountains, are fruitful and pleasant; the last are only Rocks, barren, extreamly cold both in Winter and Summer, and almost always covered with Snow. And that which is observable, these Mountains beginning near the Streight of *Magellan* make two Branches; which one in the sight of the other traverse all the length of *America Meridionalis*: and so they are in the same Parallel, yet of quality and temperament so different, that each Region hath its *Beasts*, *Grains*, and *Fruits* unlike, nay the Men transported from the one can scarcely live in the other. But let us proceed to its Parts.

TERRA-FIRMA.

Terra firma, so called by Christopher Columbus.

UNder the name of *TERRA-FIRMA* taken in general, we understand that part of *AMERICA MERIDIONALIS*, most advanced towards the North, and which touches *AMERICA SEPTENTRIONALIS* by the *Isthmus* of *Panama*. This name of *Terra-Firma* is taken from *Christopher Columbus*, not having discovered any but Isles in his first and second voyage; in his third and fourth he made a good part of these Coasts, which judging to be Main Land, that name was given it.

Its extent.

It extends it self from the *Isthmus* of *Panama*, unto the mouth of the *Amazon*, near 1000 Leagues; its breadth, between the *Mer del Nort*, and the Estates which are along the *Amazon*, is not above 200 or 250 Leagues, or little more. This breadth being only the quarter of the length is the cause that we have divided this *Terra-Firma* into two parts, of which the most Occidental, and the best for the most part belongeth to the King of *Spain*; the most Eastern, and the least, is almost all in the hands of the Natives; some *Europeans* having only settled some Habitations on the coast, and this may be called *Guiana*; the first is five or six hundred Leagues long, this about four hundred.

The Government or Province of Panama described.

The *Spaniards* have established in *Terra-Firma*, many Governments, *viz.* those of *Panama*, *Carthagena*, *Sancta Martha*, *Rio de la Haches*, *Venezuela*, and of *Paria* or *Nueva Andalouzia*, on the Sea Coast of *Mer del Nort*; those of *Popayan*, and the new Kingdom of *Granada* are within Land, or on the *Pacifique* Sea.

The Government of *PANAMA*, and which particularly takes the name of *Terra-Firma*, is between the North and South Seas, placed in the *Isthmus*, which joyns the two parts of *America* together. The Countrey is either low and miery, or mountainous and barren, and therefore very unfit to bear *Corn*, only some *Mayze* it yieldeth. Yet here is found good pasturage for *Cattle*, it is well watered with Rivers, some of which stream down Sand-gold. Its air is very unhealthful, by reason of the great heats and foggs it is subject unto.

Its chief places.

Its chief places are, 1. *Panama*, which takes its name from the Province, as the chief, being the residence of the Governour, honoured with a Bishops Sea, which is Suffragan to the Arch-Bishop of *Lima*, and the Courts of Judicature, and beautified with three fair Monasteries, as also a Colledge of Jesuites. It is seated on the Sea shore, and is a place of great resort. 2. *Nombre de Dios* once famous, being made the Staple of such commodities as were trucked betwixt *Peru* and *Spain*, which were brought hither by Sea, and so conveyed by Land to *Panama*, from whence they were shipped for *Peru*; and the like was done for those Goods sent from *Peru* to *Spain*; but by reason of the unhealthfulness, as also lying too open to the invasions of the *English* or other Nations, it was removed to *Porto Belo*, a place of great strength, built for that purpose by *Philip* the second, King of *Spain*, seated on the North Sea, distant from *Panama* 16 or 20 Leagues, which makes this passage have a great trade between *Peru* and *Mexico*.

It was once proposed to cut this *Isthmus* to make a communication between the one and the other Sea, but the *Pacifique* Sea being found higher then *Mer del Nort*, this proposition vanished; that the *Mer del Sud* is higher then that *del Nort*, may be judged by the eye; the Lake of *Nicaragua*, the Rivers of *Paria* or *Orinoque*, of the *Amazones*, together with abundance of others, having their springs near *Mer del Sud*, and discharging themselves into that *del Nort*, after a long course, which could not be but with a great declension.

The Isles of Pearls.

At the opening of the *Gulf* of *Panama*, are the Isles of *Pearls* once famous; the *Pearls* of *Gubagua*, and *de la Margarita* being at most not above eight or ten Carrats: there was found in these Isles from 25 to 30, both round, oval, and in pairs, all excellent; whereas among the others few were found well formed, or without spot.

CAR-

Carthagena described.

CARTHAGENA is a *Peninsula* joyning to the firm Land by a Causway of 250 Paces, all Sandy. It is a place of great strength, especially since the damage it received by Sir *Francis Drake* in 1585. Its Port is one of the most famous of *America*, where the *Spanish Fleet* that goes to the *West Indies* by Order puts in here, which makes it be of a great resort, and is become very rich: Its Houses are well built, and beautified with a *Cathedral Church* and 3 *Monasteries*. The other Cities of this Government are, *St. Jago de los Cavalleros*, of old, *Tolu*, worthy of note for the most Sovereign *Balsom* of all these parts, little Inferiour to that of *Egypt*. *Mopoz*, near the confluences of the Rivers of *Martha* and *Magdalens*, *Sancta Maria*, and *la Conception*. The Air of this Government is moist, scarce healthful, the best is near *Tolu*; there is brought from these quarters *Gold*, *Long-Pepper*, *Dragons-Blood*, excellent *Balm*, *Emeralds*, and *Slaves*.

Its Commodities and Trade

St. Martha described, with its Fruits, Commodities, &c.

SANCTA MARTHA, so called from its chief City, is a Country unfit for tillage, being Mountainous and barren, yet some they have; it yields good Fruits, and hath *Gold*, *Saphirs*, *Emeralds*, *Jaspar*, *Cassidoins*, *Brazil-wood*: and the Sea yields *Pearls*. The Air in the Mid-land parts, by reason of the vicinity of Mountains, which are always covered with *Snow*, is very cold, and on the Sea-Coasts as hot and scorching. Its chief places are, 1. *St. Martha*, Its chief places. scituate on the Sea-shoar, neighboured by a convenient and safe Haven, which is defended from the fury of the Winds by an high Mountain near unto it; it is honoured with an *Episcopal See*, but still laments the Ruins it suffered from the *English* by Sir *Francis Drake* and Sir *Anthony Shirley*, in *Anno* 1595 and 96. 2. *Teneriff*, seated on the Banks of the River *Magdalen*. 3. *Tamalameque*, by the *Spaniards* called *Villa de los Palmas*. 4. *Los Reyes*, scituate in the Vale of *Upar*, on the Banks of a rapid and deep River called *Guatapori*. 5. *La Ramada* or *Salamanca*, seated in the same Vale of *Upar*, about which are several Veins of *Brass*. And, 6. *Ocanna*, or St. *Anna*, seated on the River *Cesar*. Among the Governments of *America Meridionalis*, those of *Rio de la Hacha*, of *Venezuela*, and of *Paria*, are of the Audience of *St. Domingo* in the Isle of *Hispaniola*, which is of *America Septentrionalis*, yet their scituation makes us describe them here.

Rio de la Hacha described, with its Commodities.

RIO DE LA HACHA is East of *St. Martha*, of whose Bishoprick it depends. This Government hath only the City of *Nuestra Sennora de la Nieves*, or *de los Remedios*, and sometimes also *Rio de la Hacha*. It yields *Gold*, *precious Stones*, *Salt*, and its Soil is fertil.

Venezuela described.

VENEZUELA had its name so given, for its being built on many little Isles, and in a Lake, as *Venice* is. Its Air is sweet and healthful, and the Soil so fertil in all sorts of *Grain* and *Fruits*, and so well stocked with *Cattle*, that it is termed by other Countries a *Granary*, as indeed they find it so, it supplying their wants. It is well watered with Rivers; here is also *wild Beasts* for hunting; and in the bowels of its Earth are rich Mines of *Gold* and other Metals. The other Cities are *Nuestra Sennora de Carvalleda*, seated upon the Sea, but its Haven is very unsafe; nigh to this City there are Hills whose tops are said for height to equalize those of *Teneriff*. *St. Jago de Leon*, *Valenza la Nueva*, *Xeres la Nueva*, *Segovia la Nueva*, *Tucuyo*, and *Nuestra Sennora della Pax*. *Segovia la Nueva* is more advanced towards the *Barbarian* people of any, its Soil is lean, but in recompence feeds many *Cattle* and *Venison*. The Lake of *Maraycabo*, near 100 Leagues circuit, is esteemed in this Province.

Paria described.

PARIA, or *New Andalusia*, is on the River *Paria* or *Orinoque*, and is likewise called *Serpa* and *Comana* from the name of its principal City, which they call *Nueva Cordova*: They fish many *Pearls* along this Coast, before which are the Isles of *Cubago*, *Margarita*, and the *Trinity* or *Trinidado*, formerly so famous for this fishing. These Isles are very barren, scarce affording sustenance for its Inhabitants, which defect is supplied from the adjacent Countries, which made the *Spaniards* abandon them so soon as the said Fishing left them.

Popayan described.

The Governments of *POPAYAN*, and the New Kingdom of *Granada*, are towards *Peru*; that of *Popayan* is divided into two parts, the one answering to the Chamber of the new Kingdom of *Granada*, the other to that of *Quito* or *Peru*. The Air of all *Popayan* is generally healthful, and very fresh by reason of the Mountains. The Land is more proper for *Fruits* and *Pasture*, than for *Grains*; and, as in all the neighbouring Countries, here are likewise many Mines of *Gold* and other *Metals*. The Cities of *Popayan*,

Its Cities.

which answer to the new Kingdom of *Granada*, are five, but have formerly been ten; *Sancta Fe de Antequera*, *Calamanta*, *Arma*, *Sancta Anna de Anzerma*, and *Cartago*; all upon or near the River of *Sancta Martha*: the other five were *Antioquia*, St. *Sebastian de la Plata*, St. *Vincent de los Payezes*, *Neyva*, and *Villa de los Angelos*. The first was transported to *Sancta Fe de Antequera*, the others abandoned by reason of the continual Wars made upon them by the *Paezes*, *Pixos*, and *Manipa's*, who could not be tamed. The

Other Cities in *Popayan*.

Cities of the Government of *Popayan*, which answer to the Chamber of *Quito*, are nine. *Popayan*, which hath its name common with the name of the Country, seated on a pleasant River in the midst of a rich Plain, being the residence of the Governour, as also the See of a *Bishop*, and adorned with a *Cathedral* and a Monastery of *Fryars*. *Cali*, seated at the Foot of a high Mountain on the Banks of a River, and *Almanguer* on the sides of a plain, but barren Mountain. *Timana*, *St. Juan de Truxillo*, and *Guadalajara*, of *Buga* advance towards the East. *Madrigal*, otherwise *Chapanchica*, *St. Juan de Pasto*, and *Agreda*, or *Malaga* towards the West, and approaching near the *Mer del Sud*.

Granada, with its Cities described.

The new Kingdom of *GRANADA* lies almost all along the River *Magdelane*, and from its Springs to the middle of its course, are found a great many Cities, as *Sancta Fe de Bogata*, the Metropolis of this Kingdom of *Granada*, the residence of the *Governour*, and the See of an *Archbishop*; a City well inhabited by *Spaniards*, as well as the Natives. *St. Michael*, *de Sancta Fe*, about 12 Leagues from *Sancta Fe de Bogata*. *Tocayma*, seated on the Banks of the River *Pati*. *La Palma de los Colimas*, a Town built by the *Spaniards*. *Tunia*, built on the top of a Hill, being now a place of great strength, serving for a Fortress against the *Savages*; it is also a wealthy Town, enjoying a good Trade. *La Trinidad de los Musos*, seated on a River, of some note by reason of the Veins of *Chrystal*, *Emeralds*, and *Adamants*, that are in its adjacent Fields. *St. John de los Linos*, seated in a corner full of Veins of *Gold*, also *Velez*, *Tbagua*, *Mariquita*, and *Nuestra Sennora de los Remedios*, and these four last are on the left hand of the River, the other seven on the right. Distant from this River, and between the Governments of *Sancta Martha*, and *Venezuela*, are likewise *Pampelona*, rich in Mines of *Gold*, *Cattle*, and *Herbs*. *Merida* and *St. Christopher*: *Tudela*, between *la Trinidad* and *la Palma* hath been transported to *St. John de los Lianos*.

Gonzalo Ximenes, and *Ferdinand Cortez*, gained great Riches out of these parts.

In 1536 *Gonzalo Ximenes* over-run a great part of this new Kingdom of *Granada*, and made booty of about 250000 *Pezo's* of *Gold*, of which near 200000 were exceeding pure; and besides the *Gold* 1800 *Emeralds* of divers sizes. In another Incursion made by *Ferdinand Cortez* into these quarters, were found five *Emeralds* of a vast price. They were cut into divers fashions; one into the form of a *Fish*, another into a *Bugle* or small *Horn*, a third into a little *Bird*, a fourth into a *Bell*, whose Clapper was a large *Pearl*, fashioned like a *Pear*, and the last into a *Cup*; for which alone a *Genouese* Lapidary proffered 40000 Ducats, with hopes of gaining great profit by it.

Many rich Mines of *Gold*, *Silver*, and other Metals.

The Air of this Government inclines to Heat, the Valleys have *Grains* and *Pastures*, but no *Wine*; the Mountains have many rich Mines of *Gold* and other Metals; the *Silver* Mines of St. *Agatha* are rich, those *de los Remedios* have store of *Gold*, and there are 12 or 15000 *Negroes* which labour in them. Those of *Musos* near *la Trinity*, and those of *Pampilona*, *St. Christopher*, and *Merida*, are likewise of some esteem; but above all, the Mine of *Emeralds* near *la Trinity*, where there is a Rock full.

GUIA-

GUIANA, taken in general, comprehends all that is found between the Rivers of *Orinoque* and of the *Amazons*; from the Mountains which are above the Lake of *Parima* unto the *Mer del Nort*. These Mountains, towards the South divide it from what is above the River of *Amazons*: *Orinoque* divides it from *Terra-Firma*, or *New Andalousia*, on the West, and the River of *Amazons* from *Brazil* on the East. The length of this *Guiana* is near 400 Leagues, the breadth 150, and in some places 200; and if we would divide *Guiana* into *Guiana* and *Caribane*, this last would possess all the Coast, and *Guiana* the parts within Land. The Coast hath at divers times been frequented by the *Spaniards*, *English*, *Hollanders*, and *French*, who have all endeavoured to establish some Colonies, what in one place, what in another, and all with design to have commerce with those within the Country, where they hope to find a new *Peru*: I mean the Kingdom of *Manoa*, or *El Dorado*, which they esteem very rich in *Gold*. And they have observed exactly the *Rivers*, *Gulphs*, and *Capes*, which present themselves on this Coast. Among these Rivers the fairest and greatest are, *Essequebe*, *Brebice*, *Corretine*, *Marruvine*, *Cayanna*, the *Aparuvaca* or *Cape Ruvaca*, and the *Viapoco*. The Spring of the *Essequebe*, according to the report of its Inhabitants, is not above a days journey distant from the famous Lake of *Parima*, and thence takes its course for 20 days journey to the Sea, into which it discharges it self. It is interrupted by divers *Cataracts*, which hinders its being navigable for any considerable way, which causes the Inland Country not to be so perfectly discovered, as it might be were it otherwise. The *Brebice* and *Corretine* have little less course than the *Essequebe*, and no fewer *Cataracts*; the last hath its Mouth to the Sea very large, but not deep. The *Marruvine* is no less than 4 or 5000 Geometrical Paces broad at its Mouth, and the length of its course is esteemed to be 30 or 40 days journey. The *English*, who have mounted this River farther than any others, have observed abundance of Rivers which lose themselves in it; and say, that here is found the *Sensitive Plant* or *Herb*, which hath this natural property, to close if never so little touched; and to shut up its Flowers and fade if the least sprig be took from it, not opening its Leaves till a good while after. All these Rivers, for the most part, have their *Cataracts* under the same Parallel, within 4 or 5 *degrees* of *Latitude* on this side the *Equator*, which may make us judge that there is some ridge of Mountains, or at least a continued Eminence, which makes these Countries within Land, of a higher scituation than those Parts neighboured by the Sea. *Cayanna* hath likewise in it those Mountains which are near the Lake of *Parima*; and from its Spring to the Sea, is no less than 100 Leagues in a strait line, and twice as much according to its course: It embraces an Isle where the *French* have endeavoured to settle a Colony, which in time may come to good effect. *Apuruvaca* or *Caperuvaca* hath a longer course than *Cayanna*: It forms a great Lake not far from its Spring, and embraces an Island near its Mouth. When *Harcourt*, an *Englishman*, was on this River, he found many People, and those much different from one another. *Keymish*, another *Englishman*, who was with the worthy Sir *Walter Rawleigh*, who took so much pains to find out the Kingdom of *Manoa*, assures us, that in his time they could find no such People; which makes it appear, that these People are sometimes on one Coast, and sometimes on another. There are here found *Paroquetto's*, and other very rare and beautiful Birds, with pretty *Apes* and *Monkies*. *Viapoco* hath a longer course than the *Cayanna*, a shorter than the *Apuruvaca*: and like all the others of this Coast, suffers a fall 18 or 20 Leagues from the Sea, where it disburthens it self with other Rivers into a little Gulph of 7 or 8 Leagues wide, leaving on the Right hand *Cape de Condi*, or *d'Orange*. There is found along this River *Tobacco*, *Canes* from which *Sugar* may be extracted, and *Shrubs* which yield *Cotton*: and amongst the Beasts they have *Stags*, *wild Boars*, *tame Swine*, and *Beeves* which have no Horns, &c. But let us speak a word or two of the temperament and quality of the Soil of these Quarters, in which there is something extraordinary.

The length and breadth of *Guiana*.

Rivers in *Guiana*, with their Springs, Cataracts, length and breadth.

The *Essequebe*.

The *Brebice* and *Corretine*.

The *Marruvine*.

Cayanna.

The *Aparuvaca*.

The *Viapoco*.

It

The scituation of *Guiana*.

It is true that *Guiana* is under, or very near the *Æquator*; that part which ſtretches moſt within Land, and the neareſt to the *Amazons*, is under the *Equator*: from that line the Coaſt ſtretches on this ſide unto the 8*th degree* of *Latitude*; yet the greateſt part of this Coaſt lies under the 4*th*, 5*th*, 6*th* and 7*th* of theſe *degrees*, which is almoſt in the middle of the *Torrid Zone*, and conſequently ſeems to be in a Climate extreamly hot. But the Eaſtern-winds, which do almoſt continually blow upon the Coaſt, the Nights being equal with the Days, the large Rivers which refreſh and water the Country, the great Dews which fall, the height of their Mountains, the thickneſs of their Foreſts, &c. yield ſuch refreſhments as renders this Country one of the moſt pleaſant, and would be made (were it cultivated) one of the beſt and richeſt Countries in all *America*: They have two *Summers* and two *Winters*, their Summers during the *Æquinoxes*, and their *Winters* during the *Solſtices*; and to ſpeak truth, they have always either Spring or Autumn, their *Flowers* being always in their beauty, the *Trees* always in their verdure, and their *Fruits* fit to gather all the year long. The *Air* is ſo temperate and healthful, that thoſe of the Country live commonly 100 or 120 years, ſometimes 150, without being ſubject to any diſeaſe or ſickneſs. Proviſions coſt almoſt nothing, all ſorts of Game being had for only hunting; all ſorts of Fiſh are here very plentiful: They have ſeveral rich Commodities, as *Cotton*, *Cotton-Thread*, and Hamacks or Beds of *Cotton*, *China-wood*, *green Ebony*, *white* and *red Saunders*, *Dyers-ſtood*, *Brazil*, Medicinal *Oils*, *Jallop*, *Salſaparilla*, *Turbith*, *Gayac*, *Gommegutte*, *Gum-Arabick*, *Gum-Eleni*; a Balm excellent againſt the *Gout*, *Torqueſſes*, *Emeralds*, *Stag-skins*, *Tigers*, *Otters*, and *black Foxes*; grains of *Muſk* taken from *Lizards*, *Munkeys*, *Apes* and *Tamarins*, a little Beaſt of pleaſure ſo beautiful and joyful that one alone hath been ſold for 500 Crowns. The *Americans* themſelves loving to play with them, and putting about their Necks collars of *Pearls*, and Pendants of *Stones* in their Ears.

The fertility of the Country.

In the bowels of its Earth are Mines of *Copper*, *Tin*, *Lead*, and *Iron*, which are very rare in *America*; and to all appearance there are Mines of *Gold* and *Silver*; here is alſo *Roch-Alum*, *Chryſtal* of the *Rock*, *Azure*, and likewiſe *Dragons Blood*, &c.

That part of *Guiana* moſt advanced within Land, and which retains particularly the name of *Guiana*, is very little known; yet here ſhould be the Kingdom and City of *Manoa* or *El Dorado*, of which ſome have formerly made ſuch account; but not being found at preſent, is by moſt believed Imaginary.

The AMAZONE.

THE River *AMAZONE* is the greateſt and ſwifteſt, either in the one or other part of *America*, and it may be ſaid the largeſt of both Continents: From its Springs to its disburthenings into the Sea is 8 or 900 Leagues in a ſtrait line, and according to its courſe 11 or 1200; it receives, both on the Right and Left, abundance of Rivers, of which ſome have 100, 200, 300, others 45, or 600 Leagues courſe. All the *Amazon* is inhabited by abundance of People, leſs barbarous than thoſe of *Brazil*, nor yet ſo much civilized as thoſe of *Peru* were: They eat not one another, for by their *Hunting*, *Fiſhing*, *Fruits*, *Corn* and *Roots*, they are furniſhed with what is needful either for Meat or Drink: they have ſome Idols particular to them, but pay them no adoration, contenting themſelves to expoſe them to publick view when they enterprize any Affair. The *Amazon* begins at the Foot of the *Cordillier* Mountains, 8 or 10 Leagues from *Quito* in *Peru*, preſſing forward its ſtreams from Weſt to Eaſt: Its Springs and its Mouths are under or near the *Æquator*. The breadth of its Channel from *Junta de los Rios*, which is 60 and odd Leagues from its Springs unto *Maranhon*, is of one or two Leagues, and below *Maranhon*, two, three, or four, enlarging ſtill as it approacheth the Sea, where it makes an opening of 50 or 60 Leagues between the Capes *de Nort* and *Zaparare*; this

The *Amazon* inhabited by abundance of People.

Its beginning, Springs and Mouths.

The breadth of its Channel.

this on the Coaſt of *Brazile*, the other on the Coaſt of *Guiana*: Its depth likewiſe from *Junta los Rios* unto *Maranhon* is at leaſt 5 or 6 Fathom, in ſome places 8 or 10; from *Maranhon* unto *Rio Negro*, 10, 15 or 20, and from *Rio Negro* to the Sea 30, 40, 50, and ſometimes much more.

The courſe of the *Amazon* endeavoured to be found out by *Francis Orilhane*, *Pedro de Orſua*, and others, with the adventures & misfortunes, which befel them.

One *Francis Orilhane* was the firſt that took any pains to know the courſe of this River. In 1540 he tranſported himſelf to *Junta de los Rios*, where he cauſed to be built a Veſſel proper to deſcend this River to the Sea: In 1541 he imbarqued himſelf with ſome Souldiers, had divers encounters in the way, but about the end of *Auguſt* he found the Sea, after which he haſted to *Spain* to make this diſcovery known unto the King. In 1549 he returned from *Spain* to the *Amazone*, where after his ſpending a long time upon the great Sea, being ſometimes beaten to and fro by the impetuoſity of the winds which cauſed great ſtorms, then retained as long by calms, which together with the loſs of a great many of his men, at length he entred into its mouth; yet after all theſe labours and miſeries, he was ſo unhappy, that not finding the true channel to remount the *Amazone*, he died with grief; having gained nothing for all his travel, labour and expence, but the honour that ſome give his name to the River, calling it *Orelhane*. After *Francis Orelhane*, the *Amazone* was let alone for a good continuance of time. In 1560 thoſe of *Lima* in *Peru*, tried it another way; they cauſed ſome to embark on the River of *Xauxa*, otherwiſe of *Maranhon*, which begins in *Peru*, below *Guanuca*, and about 150 Leagues from *Lima*, paſſes within 30 or 40 of *Cuſco*, and by a courſe of 5 or 600 Leagues deſcends into the *Amazon*, which hath ſcarce made 300 at this meeting, yet is found the larger; this voyage was likewiſe unhappy; for *Pedro de Orſua* Chief of this expedition was ſlain by his own men, and *Lopez de Aguyre* chief of the ſedition, finiſhed to deſcend to the Sea by the *Orinoque*, and landed at *La Trinity*, where he was arreſted, and chaſtiſed for his felony. In 1566 thoſe of *Cuſco* tried again the diſcovery of the *Amazone* by the *Amarumaye*, which could not ſucceed, there being two competitors for this expedition; who made war, fought, and weakned each other in ſuch manner, that there remained but a few to be knockt on the head by the *Chonchis*: *Maldonado* one of the Chiefs of this expedition, together with two Fryers eſcaped and brought the news; after this of *Maldonado* no more diſcovery of the *Amazon* was attempted till 60 or 70 years after. In 1635 *Jean de Palacios* reattempted this deſign, tranſporting himſelf, with ſome others to *Annete*, to ſee with what means he might ſerve himſelf to make this voyage; but in 1636 he was killed, and the greateſt part of his men returned; but two Friers and 5 or 6 Souldiers, put themſelves into a Skiff, with a reſolution to deſcend the River, and in the end arrived at *Para*, the chief Colonie of *Brazile* under the Crown of *Portugal*, where they told the news to *Piedro Texeira*, Captain Major of *Para*. Though *Brazile* was then in arms againſt the *Hollanders*, yet *Texeira* forbore not to equip 47 *Barques*; cauſed to be embarqued in them 70 *Portugals*, with 1200 *Indians*, who knew how to manage *Armes*; and likewiſe 800 *Boyes* and *Women* to ſerve them; with theſe he departed in *October* 1637. remounted the River, and was ſo happy, that he finiſhed his voyage even to *Peru*, left a part of his men there, where the River *Chevelus* falls into the *Amazone*; the reſt he left at *Junta de los Rios*, except himſelf, with ſome few perſons which came to *Quito*; where he made his report in *September*, 1638. The news being brought to *Lima* to the *Count* of *Chinchon*, *Vice-Roy* of *Peru*, he gave order to furniſh them with all things neceſſary for their return; and that the *Father Chriſtopher de Acogne*, a *Jeſuite*, and his companion ſhould go with them to carry the news to *Spain*. They parted from *Peru* in *February* 1639 and arrived at *Pera* in *December* following, and ſoon after *Father Chriſtopher de Acogne* carried the news to *Spain*, arriving there in 1640. and expoſed his relation to publick view.

Texeira happy in the diſcovery of the courſe of the *Amazone*.

Theſe

These two last Voyages of *Texeira* mounting and descending the River, have given us a more ample and true knowledge of the *Amazon* than all those before him could do; and according to their report, all the Regions which are about the *Amazon* enjoy a temperate Air. The Eastern Winds which blow all day, the Nights equal to the Days, the annual Inundations like to those of the *Nile*, the great quantity of *Trees* and *Forrests*, which are upon or near the River, yield much refreshment, and keeps them from being troubled with thousands of ugly Insects, which they are pestred with at *Peru* and *Brazil*. They say, that the Leaves and Fruits of the *Trees*, the verdure of their *Herbs*, and the beauty of their *Flowers*, gives great delight to the Inhabitants all the year long. The Country (by reason of the Inundation of the River) is very fertil in *Grains*, hath rich *Pastures*, and their *Fruits*, *Plants* and *Roots* are in great plenty, and may compare with any Country in all *America*; their *Rivers* and *Lakes* are well stored with *Fish*, among others the *Sea-Calf* and *Tortoise* are very large and delicate. The Country is well cloathed with Woods, some Trees being 5 or 6 Fathom about, and along the River may be built as great Ships as any that swim on the Ocean. Their *Ebony* and *Brazil* is grown to an inexhaustible quantity; they have great store of *Cacoa* and *Tobacco*, plenty of *Sugar-Canes*, which they might easily husband, and abundance of other Commodities, without having regard to *Gold*, *Silver*, and other *Metals* which are found there.

The Country very fertil.

They have abundance of different Nations upon and about the *Amazon*; the most part of these Nations so well peopled, and their Villages so thick, that the last House of the one may easily hear the noise made in the first House of the other. Of these People, the *Homagues* are esteemed for their Manufactures of *Cotton-Cloth*: the *Corosipares* for their *Earthen Vessels*: the *Surines* for their *Joyners-work*: the *Topinambes* for their *Power*. The *Bow* and *Javelin* being their general and common Arms.

Abundance of different Nations along the *Amazon*.

Among the Rivers that fall into the *Amazon*, the *Napo*, the *Agaric*, the *Putomaye*, the *Jenupape*, and the *Coropatube*, and with some others, have their *Sands* mixt with *Gold*; below *Coropatube* there are divers Mines of *Gold* in the Mountains of *Taguare*, Mines of *Silver* in that of *Picory*, and of divers *Stones* in that of *Paragoche*, and of *Sulphur* in many others.

Rivers that fall into the *Amazon*.

As for the *Amazonian Women*, and their Kingdom, from whence it is pretended this River took its name, many accounts have been made, and divers Relations given of it to *Quito*, *Cusco*, and other places; and possibly those of the Country would have frighted the *Castilians* and *Portugals* which have been on this River. But it is no otherwise, than that the Inhabitants of the Country being in Arms, there hath sometimes been some *Women* so courageous, as to be in their party; but there never was a whole Country or Kingdom of these *Women*. And in fine, they seek them so far within the Country, that they cannot be on the *Amazon*: so those may turn to a Fable, as well as those which the *Greeks* have formerly recounted to us of such Wonders.

The *Amazonian* Women.

PERU-

PERU-VIANE where there shall be

- TERRA FIRMA, whose Governments or Provinces, with their chief places are those of
  - PANAMA: Panama. Nombre de dios. Darien.
  - CARTHAGENA: Cartagena. Mopox. Santa Maria. la Conception.
  - St. MARTHA: St. Martha. Teneriff. Tamalameque. Los Reys.
  - RIO de la HACHA: Occanna. Rio de la Hacha. Rancheria.
  - VENEZULA: Venezula. Nof. signo. de Carvalleda. St. Jago de Leon. Nueve Xeres. Valenza la Nueve. Segovia la Neuve. Tucuyo. Trdxillo.
  - New ANDALUSIA: Conuma. Corduba. Maurenabi.
  - PARIA: Macureguara. Caretios. Orinaque.
  - CARIBES: Taupuramunen. Moreshego.
  - GUIANA: Macurewaraj. Manoa del dorade.
  - POPAYAN: Santa Fee de Antiochia. Calamanta. Arma. Anzerma. Cartago. Popayan. Almaguer. Timana. Truxillo. Guadalajara. St. John de Pasto.
  - GRANADA: Sancta Fee de bogata. St. Michael. Tocayma. Tunia. Trinadad. St. John de los Ianos. Velez. Mariquita.
- P E R U, with its Audiences of
  - QUITO with its Provinces of
    - PERU: Quito. Rio bamba. Porto Viejo. Guayaquil. Cuenca. Loxa. Zamora. Yaen. St. Michael.
    - de los QUIXOS: Baeza. Archidona. Avila. Sevilla del Oro.
    - PAZAMOROS: Loyola. Valadolid. St. Jago de las Montanas.
  - LIMA, whose chief places are: Lima. Cusco. Arequipa. Valverde. Arnedo. Leon de Guanuco. la Parfilla. Truxillo. Miroflores. Cachapoyas.
  - De la PLATA, whose chief places are: de la Plata. Potosi. Oropesa. Sancta Crux de la Sierra.

The Country of the AMAZONS, or the people Inhabiting by the River AMAZONE, which are many, and of sundry sorts.

- CHILI, whose parts or Jurisdictions take their names from their chief Cities in each part, as those of: Copiapo. Conception. l'Imperial. Villa Rica. Valdivia. Osorno. Castro. St. Jago. Serena. de la Frontera.
- MAGELLANICK LAND: St. Phillip. de la Guadeto.
- TERRA DEL FUGO, or the ISLAND of MAGELLAND;


A New Mapp of AMERICA MERIDIONALE
Designed by Monsieur Sanson Geographer to the French King, and Rendred Into English, and Illustrated by Richard Blome by his Maiesties Especiall Command.
London Printed for Ric. Blome.
To the Worshipfull John Geffreys of Clyrwell in Brecknockshire, and of the Citty of London. To whom this Mapp is humbly Dedicated by Richard Blome
THE SOUTH SEA
THE NORTH SEA
THE MAGELLANICK SEA
AMERICA SEPTENTRIO.
THE AEQUATOR or AEQUINOCTIAL LINE
TROPICK OF CAPRICORNE
PERU
BRASILIAN
CHILI
PARAGUAY
MAGELLANICK LAND
Lake of Parime
Isles of Cape Verd
Abrolhos
Fernambuco
Bahia de todos los Santos
Rio Janeiro
Rio de la Plata
Maranhan
Para
Tucuman
Cuyana
Chaco
Guayra
Guaxuma
Tapuagvazv
Tapapecocies
Gorgotoques
Zipatalagua
Moconios
Tobares
Guayacurves
Patos
Tape
Timbues
Quirandes
Diaguitas
Trapalanda
Calchaquis
Cacalchaquis
Tamoyos
Tupinambas
Aymores
Goytacazes
Carijos
Arowacas
Caribes
Muckikens
Xagua
Meta
Amapaco
Epuremei
Guiana
Orinoco
Amazon River
Rio de la Plata
Rio S. Francisco
Rio de Janeiro
Cap of S. Augustin
Cap S. Maria
Cape de Hora
Cape Horn
Straights of Magellan
Terra del Fuego
Terra des Estats
Port Desire
Bay of S. Julian
Puerto de los Leones
Puerto de los Camarones
Puerto de los Barrenas
Puerto de los Gigantes
Bahia Sin Fondo
Bahia Sin Tierra
Bahia de la Trinidad
Bahia de la Gallegos
Bahia de la Gallegos
Bahia de la Gallegos

PERU.

The greatness of *Peru*.

PERU is an Empire or Kingdom, so rich, and great, that all *America Meridionalis*, or at least the half of that *America*, sometimes takes the name of *Peruviana*. *Peru*, taken more precisely, extends it self, more or less, according to the diversity of Authors: It is for the most part between the *Equinoctial Line*, and the *Tropick* of *Capricorn*, where it hath more then 600 Leagues length; and if we add the Part of *Popayan*, which is on this side the Line, and which depends on the *Chamber* of *Quito*, in *Peru*; and that part of *Tucuman*, which is beyond the *Tropick* of *Capricorn*, and which depends on the *Chamber de la Plata*, in *Peru*; its length will not be much less than a 1000 Leagues. Its breadth is likewise very diverse, esteeming what the *Spaniards* more absolutely possess. Its breadth will not be above one hundred, or sometimes two or three hundred Leagues; if we add all the Estates that lie upon the *Amazon*, unto the Confines of *Brazile*, we may make account of 6 or 700 Leagues of breadth. According to some Authors, this Country is divided into three Parts, and all different from one another; which Parts are, the *Hill-Countries*, the *Andes*, and the *Plains*. The *Hill-Countries* are twenty Leagues broad, at the narrowest; the *Andes*, as much; and the *Plains*, Ten Leagues, and something more; and each part extends it self the whole length of the Country. The *Hill Countries* are bare and naked; the *Andes* well cloathed with Woods and Forrests; and the *Plains*, well furnished with Rivers, together with the benefit of the Sea; yet, in many places, the earth is sandy and dry, which makes it unfit for *Grains*, or *Fruits*. In the *Hill-Countries*, their Summer beginneth in *April*, and endeth in *September*, during which time they have fair weather; and from *September* to *April*, which is their Winter, it raineth: This Part is much subject to Winds, which it receiveth from the Coast, which bringeth a difference in the weather; some Winds bringing *Snow*, others *Thunder*, others *Rain*, and others *Fair Weather*; and where there falleth but little *Rain*, it is observed to be the more Fertil in *Corn* and *Fruits*. On the *Andes*, it is said to rain continually; whereas, in the *Plains*, seldom, or never; and their Summer beginneth in *October*, and endeth in *April*; so that when it is Summer here, it is Winter with those in the *Hill-Countries*; And its observed, that a man, in one daies journey, may see Summer and Winter, so that at his setting forth he may be in a manner frozen, and before night scorched with heat.

Its length and breadth.

The parts of *Peru* are three, and all different from one another, as well in fertility, as otherwise.

Peru by the *Spaniards* divided into three Audiences, in which are several Provinces.

That part of *Peru*, best known, and on the *Mer del Sud*, hath been by the *Spaniards* divided into three *Audiences*, viz. *Quito*, *Lima*, and *De la Plata*: That of *Quito* is the most Northern; that of *De la Plata* the most Southern; and that of *Lima*, in the middle; and each of these *Audiences* hath divers Provinces. *Quito* holds part of *Popayan*, part of the true *Peru*, *Los Quixos*, or *La Canela*, *Pazamoros* or *Gualsongo*, and likewise St. *Juan de las Salinas*. That of *Lima*, holds the true *Peru*, where there were several Provinces, which the name of *Peru* hath swallowed up. And the *Audience De la Plata* holds the Provinces of *Tucuman*, and *De los Charcas*, and these Provinces comprehend aboundance of other lesser ones, the knowledge of which is little necessary.

The

The *Audience* of *Quito* is about the *Equinoctial Line*, and is 2 or 300 Leagues long, and large. The Quarter of *Popayan*, subject to this *Chamber*, hath the Cities of *Popayan*, *Cali*, *Timana*, and others, which we have already treated of, with *Popayan*, in *Terra Firma*. The Quarter of *Peru*, subject to *Quito*, hath the Cities of, 1. St. *Francisco del Quito*, or simply *Quito*; once one of the principal Cities of the *Incas* of *Peru*, being the Regal Seat of their Kings, where they had a magnificent *Palace*. Its Streets are strait, broad, and well ordered, and its Houses well built; is adorned with a fair *Cathedral Church*, two *Convents* of *Dominican* and *Franciscan Friars*, as also with the *Courts* of *Judicature*: once very large, but at present, it hath not above Five hundred Houses of natural *Spaniards*, Two or three thousand Houses Inhabited by the *Natives*; and in its Territory near a hundred Villages, where the *Natives* also reside; since the *Spaniards* became Masters of *Peru*, they have made this a place of good strength, being well Fortified, and as well stored with *Ammunition*. 2. *Rio Bamba*, of no note, except for its ancient *Palace* of the Kings of *Peru*. 3. *Cuenca*, seated in a Country well stored with Mines of *Gold*, *Silver*, *Brass*, and Veins of *Sulphur*. 4. *Loxa*, seated in a sweet and pleasant Valley, between two Rivers, the Inhabitants are well furnished with *Horses* and *Armour*, which is the chiefest part of their Wealth. 5. St. *Michael de Piura*, of no great account, except it be for its being the first Colony which the *Spaniards* planted in *Peru*. in St. *Jago de Guayaquil*, of some note; seated near the influx of the River *Guayaquill*, at the bottom of an Arm of the Sea. 7. *Castro de Vili*, another Colony of *Spaniards*. 8. *Porto Viejo*, seated not far from the Sea-shore, but of no account, by reason of the badness of its air; its Port-Town is *Mantu*, nigh to which is a rich Vein of *Emeralds*. 9. *Juan*. And 10. *Zamora de los Arcaides*, both so called in reference to two Cities of those names in *Spain*; and these are the *Cities*, or *Colonies*, which the *Spaniards* possess in the *Audience* of *Quito*, which have been established, at divers times, and not long after the Conquest of *Peru*.

The Audience of *Quito* described. Its chief Cities.

The air of the Country is sufficiently temperate, though under the *Line*, it is Fertil in *Grains* and *Fruits*, well stored with Cattle especially with *Sheep*; and also plentifully furnished both with *Fish* and *Fowl*; but the Fertility of the Country is most seen about, or near *Quito*, and *Porto Viejo*; near *Lona* and *Camora* are Mines of *Gold*, near *Cuenca*, Mines of *Silver*, *Quicksilver*, *Copper* and *Iron*: Near *Porto Viejo*, Mines of *Emeralds*, and about *Guayaquil* is found *Salsaparilla*.

The fertility of the Country, Mines of Gold, Silver, and other Metals.

The Province *de los Quixos*.

The Province or Country, *DE LOS QUIXOS*, otherwise *de la Canella*, is Eastward of *Quito*: Its chief Cities are, 1. *Baesa*, built in 1559 by *Giles Ramirez de Avila*, Eastward of *Quito* about eighteen Leagues, now the Residence of the Governour. 2. *Archidona*, twenty Leagues South-Eastwards of *Baeza*. 3. *Avila*, so called in reference to *Ramirez de Avila*; and 4. *Sevilla del Oro*, all Colonies of *Spaniards*. The Country is Mountainous, rude, and unfertil; yet produceth a *Cinnamon-Tree*, which pruned, the *tree*, *bark*, and *leaves* are *Cinnamon*; but the *Fruit* is by much the best, and most perfect.

The Province of *Pazamoros*.

PAZAMOROS, South of *de la Canella*, hath three Cities, or Colonies of *Spaniards*, *viz.* 1. St. *Juan de las Salinas*, or *Valladolid*. 2. *Loyola*, or *Cambinama*; And 3. St. *Jago de las Montannas*. The Air of the Country is said to be healthful, the soil indifferent fruitful, and feeds many *Cattle*; and also abounds in Mines of *Gold*. *Los Quixos*, and *Pazamoras* depend as to their Spiritual Government on the Bishop of *Quito*.

The Audience of *Lima*.

The *Audience* of *LIMA*, is at present most famous of all, by reason of the Cities of *Lima* and *Cusco*; this having been formerly the *Metropolis* of the Empire of the *Incas*, and the other being the present Residence of the *Vice-Roy* of *Peru*; and this Audience comprehends the true *Peru*; the chief depending Cities, besides *Lima* and *Cusco*, are, 1. *Arnedo*, seated in a Valley among *Vineyards*. 2. *La Santa*, or *la Parsilla*, seated in a small; to which are rich Mines of Silver. 3. *Truxillo*, scituate on the Bank of a small but pleasant River, about two Leagues from the Sea, where it hath a large, but un-

unsafe Haven, and in a pleasant Valley; the Town indifferently well built and large, and beautified with four *Convents* of several *Orders*. 4. *Miraflores*, about 5 Leagues from the Sea, in the valley of *Zanu*, of some note for the abundance of *Sugar Canes* that grow there. 5. *Cachapoyas*, or St. *Juan de la Frontiera*, of good account in former times for furnishing the Kings of *Peru* with handsom women. 6. *Leon du Guanuco*, rich and pleasantly seated, and beautified with some *Religious Houses*, a Colledge of *Jesuits*, and in former time with a stately *Palace* of the Kings. 7. *Areguipa* scituate at the foot of a flaming Mountain, in the valley of *Quilca*, made happy by a flourishing soil, and temperate air. 8. *Valverde* seated in a valley of the same name, which yields plenty of *Vines*, from which they make good *Wine*; the Town is indifferent large, being Inhabited by about 500 *Spaniards* besides Natives; and beautified with a fair *Church*, an *Hospital*, and three *Fryeries*.

The City *Lima* pleasantly seated.

The City of *Lima* is two Leagues long, and one broad, seated in a pleasant valley, being begirt with sweet *Fields* and delightful *Gardens*, below which is its Port *Collao*.

Its Houses, Streets, &c.

The Houses in this City are well built, its streets large, and so ordered that most of the chief take their rise from the *Market-place*; It is said to consist of 10000 ordinary Families, besides Passengers, and those that come hither for trade, which are many, by reason the riches of *Peru* that yearly pass through this City to go to *Spain*, which hath not a little encreased its wealth.

Hath many stately Edifices.

The City enclose several fair *Edifices* and *Churches*, among which these following may not be forgotten: *viz.* The Palaces of the *Vice-Roy* and *Archbishop*, then the *Cathedral Church* built after the Model of that of *Sevil* in *Spain*, and endowed with an Annual Revenue of 30000 Ducats, also the Courts of *Judicature*, the *Colledges* and *Monasteries*; also its four *Hospitals*, to wit, one for the *Clergy*, another for the *Spaniards*, a third for the *Indians*, and the fourth for the *Widdows*: The air about this City is healthful, temperate, alwaies serene, and the soil the most fertil of all *Peru*.

The City of *Cusco*, with its several magnificent Palaces, and other Buildings.

Among the other Cities *Cusco* is the chief among those of the Provinces of the *Hill-Countries*, and the *Andes*, being by much the most famous; having been the Residence of the *Inca's*, or *Peruvian Kings*, who for the more beautifying this City ordered all their Nobility to build each of them a Palace for their Residence; at present it is of the greatest account in all this Country, as well for its beauty and greatness, as for its populousness, being said to be the habitation of about 3000 *Spaniards*, and 10000 *Natives*; besides Women and Children. Besides these Palaces, It is adorned with a *Cathedral*, and 8 *Parish Churches*, four *Convents of Religious Orders*, a *Colledge* of *Jesuits*, a stately *Temple* dedicated to the *Sun*, also several *Baths* about the City, and abundance of very fair Houses, in the *fields*. Its scituation is betwixt two pleasant and useful Rivers; and begirt with Mountains.

Its Fertility.

The Country for the most part is fruitful, they have good *pastures*, which are well stocked with *Cattle*, they gather abundance of *Coca*, have excellent *Venison*, and the Country generally well furnished with *Rivers*, in which they take good *Fish*.

Hath Mines of Gold and Silver.

It yields many Mines of *Gold* and *Silver* about *Cusco*, and particularly of *Gold* at St. *Juan del oro*, at *Oropesa Vermillion*; and *Quicksilver*, between *Arnedo*, and *Port de Guajara*, and likewise at *Barranca* are rich *salt pits*.

The Inhabitants of *Guanuco*, and of *Chachapoyas*, are the most civilized of *Peru*. There are yet every where a great number of these *Indians*, there being esteemed under the jurisdiction of *Truxillo*, 50000 Tributaries, 30000 in that of *Guanuco*, as many in *Guamanga*, 50000 in that of *Arequipa*, and 100000 in the jurisdiction of *Cusco*, &c. There are likewise others who yield no obedience to the *Spaniards*, among which are the *Manatiens* not far from *Cusco*, who maintain themselves in their Mountains; who often butcher and eat those *Spaniards* they can entrap.

The Province *de la Plata*, with its Cities described.

The Province *DE LA PLATA*, or *de los Chaecas*, is South of *Peru*, and under the *Tropick* of *Capricorn*. It is divided into two or three other lesser parts, to wit, *de los Charcas*, *de la Sierra*, and of *Tucuman*. This last is quite beyond the *Tropick*, and we will describe it with *Paraguay*, or *Rio de la*

la Plata, with which it shall best agree. The two others are for the most part on this side that *Tropick*. The chief City is *de la Plata*, that is of *Silver*; and this City gives sometimes its name to the Province; is the Residence of an *Archbishop*; dignified with the seat of the *Governour*, the *Courts* of *Judicature*, and beautified with a fair *Cathedral*, besides several *Religious Houses*. The City is seated in a pleasant and fruitful soil. Its Houses well built, and so large, that within its walls are the habitations of 800 natural *Spaniards*, beside 60000 Natives Tributaries, under its Jurisdiction. Its Mines by reason of the incommodities of the waters, were abandoned so soon as those of *Potosi* were discovered, which, since this discovery, from a small Village is now become a very considerable and large Town, of two Leagues Circuit, being Inhabited by about 40 or 50000 *Spaniards*, besides about 30000 Natives, and others, that work in the Mines. It is seated below the Mountain, which bears the same name, from whence they have their *Silver*. A City esteemed free because of its large and ample priviledges; the Officers for the *Treasure* of the *Province* residing here, being also much frequented by *Merchants*, which come hither to trade for their *Silver*, bringing them several Commodities in exchange that they have need of, so that I may say, it is plentifully furnished with all *Commodities*, as well for delight, as necessity. The other Cities are *Neuestra Sennora, de la Pax*, or *Villa nueva*, *Oropesa* and *Chicuito* a City of *Indians*; Then *Sancta Crux de la Sierra*; and in *Tucuman* St. *Jago del Estera*, *Neuestra Sennora de Talavera*, and St. *Michael* of *Tucuman*.

This Province rich in Mines of Silver.

That which is most observable in this Province are the Silver Mines, *de la Plata*, *de Porco*, and above all those of *Potosi*, being the most famous in the world, though yielding nothing but Silver. It is observed of this Mine, that it hath four principal *veins*, the first which is called the rich; was Registred the 21 of *April* 1545. and the others in little time after. These Enregisters are made to take notice of the time granted to those which discover the Mines, to whom they belong, defraying the charge, and paying to the King the right of a fifth part. It is said that the rich Mine had its Metal out of the Earth, in fashion of a *Rock*, or like a *Chrest* of 300 Foot long, 12 or 15 broad, and 10 or 12 deep. And that which is likewise observable, is that all these *Veins* are towards the Sun rising, and not one towards its setting: they have now exhausted all that was the best and easiest to take away, and the *Miners* are descended into the Earth, some to 500, others to 10, or 1200 Degrees of depth. The Rich *vein* yielded the moiety of good Silver; but now scarce will *Quintal* of *Ore* yield two Ounces of pure Silver; yet some will say that the *Catholick King* receives for his fifth part, near two millions of Crowns yearly. Account is made of 20000 men, working in these *Mines*, and of 50000 *Indians*, which go and come to the City of *Potosi*, to trade.

SANCTA CRUX DE LA SIERRA, or the *Holy Cross* of the chief Mountain of its little Province, is East of *Potosi*, but inclosed with many barbarous Nations on the West and South; among others, the *Chiriguagues*, which are a sort of People not to be reduced to order, though between *La Sierra* and *Tucuman*. The Country is hot, but sometimes oppressed with cold and sharp winds; the Land hath *Grains*, *Mayz*, *Wine*, and feeds much *Venison*.

The Ashes of the *Inca's* of *Peru*.

The *Inca Garcilasso de la Vega* hath given us a very fine History of *Peru*, of its *Inca's* or *Kings*, with their Riches, great Revenues, Policies, and Forces: as to their Wealth, it was shewed by the vast Treasures which the *Spaniards* became Masters of; all their moveables, besides Rooms full of several sorts of Images, being of Gold and Silver, together with several Rooms filled with Treasure.

Their Policy.

Their Policy was shewed in the management of their Affairs, and enlargement of their Territories, treating their Subjects kindly and lovingly; and allowing them share in the spoils of other Countries, meerly to endear them, and gain their affections; and by these, and the like means, they were much reverenced, and faithfully served by their Subjects.

Their Forces.

And lastly, as to their *Forces*, we may conclude them to have been great, if we look back upon their great and many victories they have gained, as also of the *Civil Wars* maintained between the first *Spanish Chiefs* that Conquered this great *Empire*, though

Its Inhabitants.

though with no small pains, expences, and loss of men. The People are said to be of a strong and healthy constitution, couragious and warlike, great Dissemblers, ignorant of Letters, much given to *Drink*; were formerly so barbarous, that they adored only *Beasts*, or those inanimate things, which they might make use of, or which they feared might hurt them; sacrificing not only *Fruits* and *Beasts*, but likewise *Men* and *Women* taken in *War*, and sometimes their own Children.

Two rare Plants worthy of note.

Among the rarities of this Country, here is a Plant, which, if put into the hands of a Sick person, will immediately discover whether he shall die or recover; for, if he, at the putting it to his hand, look of a chearful countenance, then it is a sign of his recovery; but if sad, and troubled, a sure sign of death. They have another Plant, of which the North-part, regarding the Mountains, beareth its *Fruits* only in Summer, and the Southern-parts, towards the Sea, in the Winter season only.

CHILI.

Chili bounded. Its length and breadth.

CHILI is between *Peru*, which is North of it, and the *Patagons* which are on its South towards the Streight of *Magellan*, and between *Paragua*, and the *Magellanick-Land*, which are on the East of it, and the *Mer del Sud*, which washes it on the West; its length, from North to South, extends from the 26 *Degree* of *Latitude*, unto the 46, and reaches 500 Leagues. Its breadth, from West to East, is between the 296, and 302, and sometimes 305, 306, 307 *Degrees* of *Latitude*; and sometimes likewise stretches 500 Leagues. But the *Andes*, bounding it almost all along the East, these Mountains in some places advance so near the Sea, that they leave it but a small breadth.

Chili divided into three Quarters, which are subdivided into 3 Jurisdictions.

Chili is divined into three Quarters, and these Quarters into thirteen Jurisdictions; one of the three Quarters retains the name of *Chili*, and contains the Jurisdictions of *Serena*, *Quillota*, and St. *Jago de Chili*, extending it self from the River of *Copiapo*, unto that of *Maule*; where are on the Coast the *Ports* of *Copiapo*, of *Guasco*, of *Coquimbo*, where Sir *Francis Drake* was repulsed, and of *Valparaiso*, where he surprised a Vessel laden with 25000 *Pezo's* of Gold of *Valdivia*, and a great quantity of *Wines*. The second Quarter advances from the River of *Maule* unto that of *Gallegos*, and is called the *Imperial* from one of its principal Cities. The Jurisdictions of this part are those of *Conception*, of *Ongos* or *de los Infantos*, of the *Imperial*, of *Villarica*, of *Valdivia*, of *Osorno*, and of *Chilva*. The *Conception*, *Valdivia*, and *Chilva*, have their Ports of the same name; that of *Canten* serves for the *Imperial*: These two Quarters of *Chili* and the *Imperial*, are between the *Mer del Sud* and the *Andes*. Beyond these Mountains in the last Quarter *Chicuito* or *Cuyo*, where are the Jurisdictions of *Mendoza*, and St. *Juan de la Frontera*. All these Jurisdictions take their Names from the principal Cties; besides which they have some others:

Its chief Cities described.

But a word or two of some of the chief Cities in *Chili*, and *first* of *Copiapo*, seated in a Fertil Valley of the same name, and neighboured by a good, but small Haven. 2. *Conception*, seated in a capacious Bay, by which, and the Mountains which encompass it, which are well fortified, it is a place of good strength, so that it is made the Residence of the Governour, where he hath a strong Garrison of *Spaniards*. 3. *L'Imperial*, scituate on the Banks of the River *Canten*, a place of great strength and power, esteemed one of the strongest in this Country, and is the *See* of a *Bishop*. 4. *Villa Rica*, 25 Leagues from the *Mer del Sud*, another Colony of *Spaniards*. 5. *Valdivia*, neighboured by a capacious and safe Haven, as also by rich Mines of Gold; another Colony of *Spaniards*. 6. *Osorno* plentifully stored with Mines of Gold, but seated in a barren soil. 7. *Castro*, built on the Bay of *Ancud*, in a fruitful Island, about 50 Leagues in length, and 9 or 10 in breadth. 8. St. *Jago*, seated on the Banks of the River *Topacalma*, at the Mouth whereof is a noted Haven, called, *Valparaiso*.

And

and 9. *Serena*, scituate on the Banks of *Rio de Coquimbo*, not far from its influx into the Sea; a Town, though but small, yet of good strength, especially, since it is become a Colony of *Spaniards*; rich also in Mines of *Gold*.

Chili very cold.

Chili in their Language, signifies Cold, which in regard of the Mountains of *Sierra Nevada de los Andes*, are said to be extreamly cold; and where reigns a certain Wind, so sharp, and piercing, that it insensibly extinguishes the natural heat, so that people often die in a moment; and then freezes, and hardens their bodies in such manner, that they corrupt not.

Its Fertility.

The *Valleys* and the *Plains* nearest the Sea, are well inhabited, and have the Air healthful, serene, and temperate; the soil exellent, and Fertil; though not without some difference, according as it is nearer or further from the *Equator*. The Quarter of *Chili* ought to be hotter, and that of the *Imperial* as hot as *Spain*: but the vicinity of the Mountains on one side, and the other, renders it a little colder than otherwise might be expected, as to the Climate; but yet hot enough to be one of the best Parts of *America*. The Valley of *Copiapo* yields sometimes Three hundred for one; those of *Guasco*, and *Coquimbo* are held no waies inferiour to it; that of *Chili* is so excellent, that it communicates its name to the Country. Above these Valleys are Mines of *Silver*, *Quick-silver*, *Copper*, *Lead*, and great plenty of *Gold*; both in the Ingots, and Sand.

Mines of Gold, Silver and other Metals.

Valdivia gained great riches here.

Valdivia, who was here after *Almagre*, and who at the beginning succeeded better than his Predecessor had done, extracted a great quantity of *Gold* out of this Country; and caused to be wrought several Mines of *Gold*, so rich, that each *Indian* rendred him thirty or forty *Ducats* daily; and when he had employed but twelve or fifteen *Indians* in this work, they would have yielded three or four hundred *Ducats* a day; and in a month, about Ten thousand; and in a year, about a hundred, or a hundred and twenty thousand *Ducats*. This agrees with what the *Inca Garcilasso de la Vega* reports in his History, saying that the Count *Valdivia* had for his Portion a part of *Chili*, and that his Subjects rendred him the yearly tribute of a hundred thousand *Pezo's* of *Gold*.

The Avarice of *Valdivia* proves his ruin, and death.

But the thirst after this Metal being insatiable, and *Valdivia*, the more he received, the more still he coveted, forced to work in these Mines those *Indians*, who, not accustomed to so hard a labour, nor to serve so cruel a Master, resolved to rid themselves of him, and to cast off their heavy yoke: In pursuance of which, those of *Arauco*, and thereabouts, began the revolt; and after divers encounters, slew and took a hundred and fifty of his *Horsemen*.

These *Araucques*, with their Neighbours, assembled themselves to a Body of Twelve or thirteen thousand men; who after having been divers times beaten by *Valdivia*, and in all likelihood of being quite subdued; at length, an old *Indian*, who in all possibility, had before observed the order which the *Spaniards* held in their *Battels*, advised them to divide their men into many Squadrons; and shewed them how each Squadron, one after another, must assault the *Spaniards*; and that the first Squadron being broken, must rally in the tail of the last; which succeeded so well, that in the end, they so wearied the *Spaniards*, and their *Horses*; that when they began to think of a retreat, they were prevented, and utterly defeated. Some say, that *Valdivia* being fallen into their hands, was fastened to a *Tree*, and his *Almoner* to another, so near together, that they might discourse together, and condole one anothers misfortunes. And that the *Araucques*, from time to time, (though contrary to their custom, to eat human flesh) did cut off gobbets of flesh from their *Leggs*, *Thighs*, and *Arms*, which they caused to be roasted, boyled, or broiled, according to their several Appetites, which they did eat in the sight of these poor tormented Creatures, whilst they were finishing their daies in such a lingring death: Others say, that they took off the top of his skull, and poured melted *Gold* into his *Brains*, *Mouth*, and *Ears*, making afterwards a *Goblet* of his *Head*, and *Trumpets* of his *Bones*, &c.

After

The City of *Valdivia* taken and destroyed by the Natives, with others.

After the death of *Valdivia*, the *Spaniards* had great disadvantages in *Chili*, till that *Gracias de Mendoza*, son to the *Vice Roy* of *Peru*, had reduced part of these people to obedience, which continued for no long season; for in 1599, these people surprized the City of *Valdivia*, seized on the *gates* and chief *places*, invested every house, to the end nothing might escape their hands, set fire through all, killed and took prisoners 4 or 500 *men*, *women* and *children*, took the *Fort*, wherein were three hundred thousand *Pezo's* of *Gold*, besides which they carried away with them all the *Arms*, *Ammunition*, and *Artillery*.

After the taking of *Valdivia*, the *Imperial* was besieged, which they stoutly defended and maintained for the space of Twelve Months, and would have done longer, were it not for the Famine and sickness that so extreamly reigned amongst them, that reduced their Forces, together with the Inhabitants of the City, to about twenty men, who no longer able to defend themselves, submitted to the mercy of the *Arauques*; So that in the end, of 13 principal Cities that were in *Chili*, 6 or 7 were ruined; *viz. Valdivia*, *l' Imperial*, *Ongol*, *Chillian*, St. *Crux*, *la Conception*, and *Villarica*: *Osorno*, in time received relief: The men found in the taken Cities were knockt on the head; they permitted the ransom of women, one of whom they gave for a pair of *Spurs*, a pair of *Stirrups*, or a *Horses bridle*; for a *Sword* they would give half a dozen; but this commerce was soon Prohibited by the *Vice-Roy* of *Peru*; that *Arms* serviceable for War might not be put into the hands of these *Barbarians*.

Of those which they had got by means of this commerce, or which they gained at the taking of so many Cities, and in divers defeats of the *Spaniards*, they after made use, and became so dextrous, that they mounted on horseback, managed the *Lance*, *Musket*, *Halberd*, &c. and continued the War from 1599 to 1641 when the Marquess *Vadez* made peace with them. During this *War* there hapned a thing worthy of observation; *to wit*, In 1614, a Ship of *Biscay* bringing relief to the *Spaniards* that were in the Fort of *Arauque*, it unfortunately fell out that it suffered a Shipwrack on the Coast, so that the men fell all into the hands of the *Arauques*, who immediately slew them all, save only the *Trumpeter*, who being about to pass the same Fate with his Fellows, thought he would once more sound before he died, which saved his life.

A sad disaster befel a Ship of *Biscay*.

The reason of their last revolt.

The reason of the last revolt of the *Arauques* was, that after having served the *Spaniards* for near 50 years, and being for the most part become Christians, the *Spaniards* had yet taken some of their *wives* and *children*, and sold them away into perpetual and cruel servitude, which made them not only resolve to cast off the *Spanish yoke*, but likewise to renounce *Christianity*.

Unde the name of *Arauques* are comprehended the Inhabitants of the *Mountains*, and *Valleys* of *Arauco*, *Tucapel*, and *Puren*; which are between the *Conception*, the *Imperial* and *Ongol*. Peace being made with these people, there rested in *Chili* none but the *Pulches* as enemies to the *Spaniards*: but these *Pulches* being beyond the *Andes*, they have little to do with them; and the Country is restored to a good estate, and the Cities better rebuilt.

The City *La Conception*, and *Valdivia* described.

LA CONCEPTION is at present walled with walls of stone, hath a *Cittadel*; and because the Governour of the Province resides here, though the soil be ingrateful, the Inhabitants have so tilled, manured, and so embellished it with Gardens, that it is become one of the pleasantest abodes of *Chili*. *Valdivia* is scituated on an elevated ground, which with the addition of Art, is held one of the strongest in *Chili*.

The Jurisdiction of St. *Jago* hath under it more than 80000 *Indians*, which are divided into 26 *Partimiento's*, or parts; that of the *Imperial* hath as many; *Osorno* 200000, *Castro del Chilve* 12 or 15000 only, the other *Jurisdictions* more or less.

The Inhabitants of *Chili*.

The Natives of *Chili* are for the most part 6 Foot high, well proportioned, strong, active, warlike, and cruel when they have the advantage of their enemies; of a white complexion, their Garments for the most part are skins of *beasts*, their common *Arms* are *Bows* and *Arrows*.

The

The Fertility of the Country.

The Country is subject to *Earth-quakes*, the soil in the midland is for the most part Mountainous, and unfruitful; towards the Sea-side, level, fertil, and well watered with *Rivers*, which makes it yield plenty of *Wheat*, *Mayz*, and other *Grains*; which, as also their *Vines*, were transported from *Spain* hither, which now are so abundantly increased that they often furnish *Peru*. Nor doth any Country in all *America* afford more *Cattle* than this doth, their *Sheep* like those of *Peru*, are very large; they have here long *Pepper*, abundance of *Honey*, good *Fruits* and *Plants*, but their chiefest riches is drawn from the *Gold* and *Silver*.

Its Commodities.

In the Mountains of the *Andes*, though very cold, are 12 or 15 *Vulcans*, which perpetually vomit fire: These *Vulcans* take their name from the Vallies where they have their rise, or from Cities or Towns there adjacent.

BRAZILIANE where there shall be

BRAZILE regarding the Sea, with its Governments (as they are Inhabited by the Portugals) of

- ST. VINCENT — Sanctos, St. Vincent, Itauchi, St. Paule, Philippe villa.
- RIO JANIERO — St. Sebastian, Angra dos Reyes.
- SPIRITU SANCTO — Spiritus Sancto.
- PORTO SEGURO — Porto Seguro, Sancta Crux.
- LOS ISLEOS — los Isleos, Camamu.
- BAYA de los SANCTOS — St. Salvador, St. Antonio, Tapesipe.
- SEREGIPPE — Seregippe del Rey, Olivera.
- FERNAMBUCO — Olinda, Recif, St. Michael, Calvo.
- TAMARACA — Tamaraca.
- PARAYBA — Payraba, St. Authony, St. Katherine.
- RIO GRANDA — de los tres Reys, Copoaba, Juaon Lostao, Natall, Brandlbe.
- SIARA — Siara, St. Jago, St. Sebastian, Cors, Sourpan, Clene Salinas, Camucipe.
- MARANHAN — Junipara, Sancta Ann, Comma, St. Lewis, Nuestra sennora.
- PARA — Corrupa, Estiero, Cogemine, Gomata, Para.

BRAZILE within Land, which is possessed with abundance of several sorts of people, (most of which are unknown unto us) among which are the — Paries, Carayæs, Amixocories, Noneæs, Amacaxies, Apuyes, Aquigiræs, Tapiguiries, Panaguiries, Apetubæs, Tapuxenquies, Caraguatayræs, Quirigniæs, Bigrorgies, Vibæs, Guigraes, Jubæs, Oquigies, Pahies, Aries, Guipæs, Cuigraies, Pirivies, Annaciugies, Laratiies, Guaracacativies, Aturavies, Aquitigpæs, Maimimyes, Caracuivyes, Mandeivies, Caraembas, Macutiies, Napares, Parapoties, Pahacuries, Cuaxræs, Nuhinvies, Taraguaigies, Piraquies, Anacuyes, Tapacuvyes, Macaraguacies, Tupioys, Cayviaries, Jacuyvies, Caiucujares, Jobiores, Cumpehes, Cicules, &c.

PARAGUAY Or, RIO de la PLATA, whose chief Provinces and Places, are those of

- PARAGUAY — Paraguay, Eupana, Guabiano.
- CHACO — Chaco, Rioxa, Estero.
- De la PLATA — Assumption, las seite Corrientas, Sancta Fee, Buenos Ayres, Penabobre.
- TUCOMAN — St. Jago del Estero, St. Michael de Tucoman, St. Salvador, Salta, Corduba.
- URVAIG — la Conception, St. Nicholas, St. Francis Xavier, Ibicuit.
- PARANA — St. Ignatius, Itapoa, or the Incarnation, The holy Sacrament, Acarag, Sancta Maria.
- GUAYR — Cuidad Real, Villa ricca, St. Paul, No. sen. de Loretto, St. Francisco Xavier, St. Joseph.

BRA-

BRAZILE.

BRAZILE is most commonly taken for the most Eastern part of *America Meridionalis*. In 1501 *Alvarez Cabral* a *Portugal* sailing along the Coast of *Africa*, in his passage to the *East Indies*, by a great Tempest (the wind blowing Eosternly) he was driven into these parts; where he erected and left a Column whereon were affixed the *Arms* of *Portugal*, to remain to future ages, signifying that he took Possession of it for the Crown of *Portugal*. A little after, *Americus Vesputius* was expresly sent to make a more particular discovery of it, which so well succeeded that in a short time some Colonies of *Portugals* were here established, and the name of *America* was given it in honour to *Americus Vesputius*, which name was soon after communicated to all this new *Continent*; but this quarter particularly took the name of *Brazile*, by reason of the great abundance of that *wood* here found more than in other places.

A Column erected here by *Alvarez Cabral*, a *Portugal*, with his Masters Arms therein.

BRAZILE, taken in its greatest extent, is one half of *America Meridionalis*, which some call *Brasiliana*, but which they divide into *Brazile*, and *Paraguay*: this *Brazile* separated from *Paraguay* begins at the River of *Amazones*, and extends it self to the Provinces of *Paraguay*: and though that be but from the first *deg.* of *Lat.* unto the 21; yet the Coast making a great *Demi-circle*, hath no less than 1200 Leagues. The *Mer del Nort* washes it on the North, South-East, and East; *Paraguay* and *Peru*, bounds the rest towards the South and West.

Brazile bounded.

The high Country is wholly unknown, and likewise part of the Coast. It hath every where abundance of *Barbarous people*, who make war with, and eat one another; the divers relations hitherto given us, make mention of more than 100 of these *peoples*, yet these are few in regard of those yet unknown. The most famous, and best known, are the *Margajas*, *Topinambous*, *Ovetacas*, *Paraibas*, *Petiguares*, *Tapouyes*, *Cariges*, *Morpions*, *Tobajares*, &c.

Great part of *Brazile* unknown.

The *Portugals* have only seized on what they found most commodious on the Coast, and have from time to time placed divers *Governments*, which they call *Capitanies*. The most antient is that of *Tamaraca*, then of *Fernambuco*, now the most famous of all is that of the *Bay of all Saints*: they count Fourteen in all, which following the Coast, from the River of *Amazones*, towards *Paraguay*, are, *Para*, *Maranhan*, *Giara*, *Rio Grande*, *Parayba*, *Tamaraca*, *Fernambuco*, *Seregippe*, *Baya de Todos los santos*, *los Isleos*, *Porto Seguro*, *Spiritu sancto*, *Rio Janiero*, and St. *Vincent*.

The parts best known.

The Governments or Capitanies which the *Portugals* hold.

Each *Capitany* hath depending on it, one or two more Colonies of *Portugals*. In the *Capitany* of *SAINT VINCENT*, the principal is *Santos*, seated at the bottom of an Arm of the Sea, distant from the Main, about three Leagues, accommodated with a very good Port, capable to receive Vessels of 400 *Tuns*. This Town is Inhabited with about two hundred Families of *Portugals*, who have beautified it with a fair *Church*, and two *Convents* of *Jesuits*; and since the assault that Sir *Thomas Cavendish* made upon it in 1591, they have environed it with a *wall*, and well Fortified it with strong *Bastions*. The next is *Saint Vincent*, which hath not above one hundred houses of *Portugals*, but its Port little commodious. The third and fourth Cities are *Itanchin*, and *Saint Paul*, beyond the Mountains, and Forrest, *Pernabiacaba*; which are very difficult to cross, the way being cut through the trees: the City is seated on the Top of a little hill, and neighboured by some Mines

Chief places in the Capitany of *St. Vincent* described.

of Gold, found in the Mountains; a Town of about one hundred houses, and two hundred Families, beautified with a Church, two *Convents*, and a *Colledge* of *Jesuits*. This *Capitany* wants *Salt*, *Wine*, and *Oyl*, but in recompence they have all sorts of *Fruits*, and many Mines of *Silver* about St. *Paul*.

The Capitany of *Rio Janiro* with its chief places described, and its Commodities.

The *Capitany* of *RIO JANIERO*, takes its name from its River; so called, because it was entred into in the month of *January*. The *Portugals* have built the City St. *Sebastian*, at the mouth of the *Gulph*, which the River makes falling into the Sea; and Fortified it with strong *Bulwarks*. And more to the West, they have likewise built the City of *Angra de los Reyes*, and made it a strong Colony. This *Capitany* hath much *Brazile-wood*, *Cottons*, and all *Provisions*, but no *Sugar*. These two *Capitanies*, *Rio Janiero* and St. *Vincent*, are on this side and beyond, or rather under the *Tropick* of *Capricorn*.

The Capitany *del Spiritu Santo*, with its Cities.

The *Capitany* *DEL SPIRITU SANCTO*, hath one of the best soils of all *Brazile*, well stored with *Cotton-wool*, but deficient in *Sugars*. Its River is called *Parayba* from a name common to three Rivers in *Brazile*; one is beyond St. *Vincent*, the second this, and the last waters the *Capitany* of *Parayba*: that which waters *Spiritu Santo*, is pleasant, but rapid. The City hath but two hundred and odd Families of *Portugals*. Its principal buildings are, a *Church* dedicated to St. *Francis*, a *Colledge* of *Jesuits*, and a *Monastery* of *Benedictines*.

Porto Seguro, and its Cities.

PORTO SEGURO belongs to the Duke of *Aveiro*, and hath three Colonies, *viz.* 1. St. *Amaro*, or St. *Omers*, once of great account for making *Sugars*, where they had five *Sugar Engines*, for the ordering and making it, but deserted by the *Portugals*, for fear of the incursions of the *Savages*. 2. *Santa Cruz*, a Town not very large, neither with a commodious Harbour. 3. *Porto Seguro* containing not above two hundred houses, but held of some Antiquity. It is built on the top of a white *cliff*, which commands the Haven. The

Its fertility.

soil of this *Capitany* is so fertil in *Grains* and *Fruits*, that it furnisheth its Neighbours; It hath likewise *Sugar*.

Los Isleos with its chief places.

LOS ISLEOS, belongs to *Don Luco Giraldo*, a *Portugal*; Its chief Town is seated on a small River, but neighboured by a great Lake of twelve Leagues circuit, from which this River takes its rise, and contains not above 150, or 200 Families of *Portugals*. It hath a long time suffered persecution, and the Colony almost lost by the *Guaymores*, a race of the most savage and barbarous people of *Brazile*, which being driven out of their own Country fell into this *Præfecture*, which they had utterly ruinated, had not (as a *Jesuite* tells us) some of the *Relicks* of St. *George* been brought hither; which seeing, the Planters re-took courage, and bravely repulsed these *Barbarians*. The River which waters this City turns eight or ten *Mills*, or *Sugar-Engines*.

Baya de los Santos described.

The *Capitany del BAYA DE LOS SANTOS*, took its name from the *Bay* or *Gulph*, wherein is seated St. *Salvador* its principal City: This *Bay* having its mouth to the Sea, eight or ten Leagues wide, and its depth twelve, fifteen, or twenty fathom every where, encloses many Isles, of which the most outward to the Sea is *Taperico*: This Bay makes likewise divers openings, fifteen or twenty Leagues within Land, from whence it receives the Rivers of *Pitange*, *Ceresippe*, *Cachera*, and others, each with their little *Gulph*:

A memorable Exploit of *Peter Heyns* a *Dutchman*.

This *Bay* is memorable for the rash attempt of *Peter Heyns* a *Dutchman*, Admiral of a Fleet of the *United Provinces* for the *West India-Company*, who in 1627 entred this *Bay*, where there were 26 sail of *Spanish Ships*, four of which were men of *War*, all lying under the Protection of the *Castles* and *Forts*; who fell amongst them with such boldness, that he sunk their *Vice-Admiral*, and took all, or most of the rest, with a condition only of their lives. The City of St.

The City of St. *Salvador* is fair, and beautified with many stately Edifices.

Salvador, is in the most Northern part of the *Gulph*, seated on a little Hill, and towards the Sea; it regards its Ports made in a Demi-circle, whose two points, or extremities have each their Castle; St. *Antonio* towards the Sea, and *Tapesipe* towards the *Bay*. This City all environed with a wall, is great and populous, and dignified with the Residence of the *Vice-Roy* of *Brazile*, for the Crown

Crown of *Portugal*, as also with a *Bishops See*, together with divers *Officers*. It is beautified with many *Churches* and *Religious Houses*, but above all, the Colledge of the *Jesuits* is magnificent. This *Capitany* is best peopled, and the richest of all *Brazile*. It hath 40 or 50 *Sugar-Mills*, the most of which are about this *Bay*; every where there is quantity of *Cotton*, and on the coast is found *Ambergreece*.

Seregippe del Rey, and its City.

The *Capitany* *SEREGIPPE DEL REY* hath only a little City, and *Olivera* is that alone which gives it a degree amongst the *Captains* of *Brazile*; and here is esteemed to be some Mines of *Silver*.

The Capitany of *Fernambuck*, with its Colonies, and Cities described.

The *Capitany* of *FERNAMBUCK* is one of the best of all *Brazile*, possessed by the *Albuquerques*. The *Portugals* have here established Thirteen Colonies, among which *Olinda* is the chief, being a fair and pleasant City, seated near the Sea-shore, but with no commodious Haven, only its entrance is defended by a Castle which is well Fortified. Account hath been made of two thousand Families of *Portugals*, besides the Clergy and the *slaves* which were in great number, which they employed in their *Sugar-mines*; and among the *Portugals* two hundred Families, which possessed each twenty five, thirty, forty, or fifty thousand *Crusados*, and more; the chiefest Ornament of this City is the Colledge of the *Jesuits*, built very rich and magnificent, and endowed with many Houses in the City, many *Sugar Engines*, and much Cattle in the field; also a Collegiate Church, with six or seven others, besides *Chapels*, several *Monasteries*, and *Hospitals*, &c. From the City a Tongue of Earth advances to the Sea, at the end of which is *Recif*, a well-peopled Town, where the *Ships* load and unload their *Merchandises*.

This place is become Famous in our time, having been for many years disputed between the *Portugals*, and the *Hollanders*; but these have in the end been driven out by the other.

Its Trade and Commodities.

Besides the Colonies, there are abundance of *Aldees* for the *Indians*; it is observed that every year there is laden from *Fernambuck*, 80, 90, and sometimes a hundred Ships, the most part with *Sugars*, and some with *Brazile-wood*, and that only in the space of four years, which were 1620, 21, 22, and 23, there was transported from *Angola* in *Æthiopia*, unto this *Capitany* 15 or 16000 *slaves* to work in their *Sugars*, and *Brazile*.

The Fertility of its soil.

The Soil is fat and fertil, the *Sugar Canes* coming of themselves both on the Hills and in the Valleys, and the *Brazile-wood*, being brought in a prodigious quantity from the Forrest *Gran Mato* of *Brazile*, 20 Leagues from *Olinda*. All these conveniencies, with the goodness of its *pastures*, makes them call this *Capitany* the Paradise of *Brazile*.

Olinda and St. Augustine ruined by the Dutch.

But in 1630, 31, 32, the *Dutch West-India Company* took, and ruined *Olinda*, and after it St. *Augustine*, and almost all the Fortresses, which the *Portugals* held in this *Capitany*: and were not driven out till within 9 or 10 years, but from time to time molested.

The Capitany of *Tamaraca*, with its chief places described.

TAMARACA is the most antient *Capitany*, but the smallest of all *Brazile*; that of *Fernambuck* enclosing it on one side, and *Parayba* on the other. Its Fertility is admirable; the Port *dos Francezes* is a place of no great note, but for its commodious *haven*, which is well defended by an impregnable *Castle*, which is seated on the top of an hill.

The Capitany of *Parayba*, with its chief City.

The *CAPITANY* of *Parayba*, had likewise beginning from the *French* in 1584, which soon after was seized by the *Portugals*, and its principal City *Parayba* was called by them, *Philippine*, or *Neustra Seignora da Nieves*; and by the *Hollanders* when they were Masters of it, *Fredericstad*. It is two or three Leagues from the Sea, there where the River *Parayba* falls, having two *Castles* on the two parts, which end it, and defend its entrances, that on the right hand is *Cape Delo*, where is the Fort St. *Katherine*, the other *Cape del Nort*, where is the Fort of St. *Anthony*. This City is walled, and is seated on the banks of the said River; at the bottom of an Arm of the Sea, not above three Leagues from the Ocean. This *Capitany* on the North touches *Rio Grande*, on the South *Fernambuck*, enclosing that of *Tamaraca*, on the West: the River *Parayba*, dividing it into two equal parts; the Inhabitants addicting

The bounds of this Capitany.

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themselves to till the fields, where they posseſs their *Heritages*, *Farm-houſes*, and *Ingenno's*, which are magnificently built. These *Ingenno's* are the Mills which serve to bruiſe the *Sugar Canes*; they are built along the River, where are the Fields and Cloſes; in which lie the *Canes* and some *Copſes* from whence they fetch wood to boil the *Sugar*. And sometimes, these *Ingenno's* are so great, and so ample, that they contain besides the houſe of the Maſter which is well built, many others: either for the *Portugals*, which serve them, or for those *Negroes* and *Slaves*, which belong unto them; and their number amounts to 50, 60, 80, and sometimes to a hundred Families. There are a score of these *Ingenno's* in the *Capitany* of *Parayba*. The Land is unequal being in *Mountains*, *Valleys* and *Plains*. The *Plains* are for the *Sugar*; the *Valleys* for *Tobacco*, *Mandioche* and *Fruits*; and the *Mountains* for *Wood*. The lands which are tilled, yield one hundred for one, their *paſtures* feed many *Flocks* of *Beeves*, *Sheep*, *Goats*, *Hoggs*, and *Horſes*, which are ſtrong and laborious. The Natives of the Country have some *Aldees*, that is, Villages, built after their mode, each Village having only four, five, or six houſes, but very long like *Halls*, where are 4, or 5, or 600, sometimes 1000, 1200, or 1500 Inhabitants; their moveables being only their *Hamacao's*, which are their *Beds*, their *Bow* and *Arrows*, and some *Mandioche*. In each *Aldee* they have a Captain, which they chuſe among themselves, and they give them a *Portugal* to see what paſſes: there are of these *Aldees*, in all the *Capitanies* of the *Portugals*, six principal ones in that of *Parayba*, as many in that of *Rio Janerico*, three in *Tamaraca*, three in *Fernambuck*, and so in others.

Its Inhabitants addicted to Tillage, and making of *Sugar*.

The nature and fertility of the land.

Their Cattle and Fowls. The habitations of the Natives.

The Capitany of *Rio Grande* deſcribed.

The *Capitany* of *RIO GRANDE*, was once poſſeſſed by the *French*, after they had quitted *R. Ganabara*: and here they made alliance with the *Petivares* in the year 1597. *Feliciano Ceca* of *Garovulaſco*, Captain of *Parayba* came to aſſault them; but without forcing them away that time; in 1601 they were quite expelled. The *French* had diſcovered an excellent Mine of *Silver* at *Copooba*, and another of *Emeralds*, near the Bay of *Moncourou*; between *Rio Grande*, and *Siara*, and rich *Salt-pits* near the Point *de Salinas*. The principal Fortreſs that the *Portugals* hold here, is *De los tres Reyes*, or *the three Kings*, on the right hand of the River.

The Coaſt of *Brazile* from *Cape de Frio*, until on this ſide of that of St. *Auguſtine*, and ſo to the middle of the head of *Potengi*, ſtretches from South to North, and continually regards the Eaſt. The reſt of this *Capitany*, and that of *Siara Maranhan* and *Para*, extend from Eaſt to Weſt, regarding the North, and are the neareſt to the *Equinoctial Line*. The Coaſt of these four laſt *Capitanies* hath no leſs extent on the Sea, than that of all the others together, but are worth much leſs.

The Capitany of *Siara*, with its Commodities.

The *Capitany* of *SIARA* is among many Barbarous People, and therefore not much frequented; yet is of some trade, by reaſon of the *Cotton*, *Chryſtal*, *Precious Stones*, and many ſorts of *Wood*, which are here found. They have likewiſe many *Canes* of *Sugar*, which are of no uſe, there being no *Sugar Engines* in the Country.

The Capitany of *Maranhan*, with its chief places.

The *Capitany* of *MARANHAN* is an Iſle, which, with some others, is found in a Gulph, about twenty five Leagues long, and broad. This Iſle hath forty five Leagues Circuit, hath twenty ſeven Villages, of which *Junaparan* is the chief, and in each Village four, five or 600 men, ſo that the *French* made account of 10000 men in this Iſland.

The fertility of the Country, with its Commodities.

The Air ſerene, temperate and healthful, the Waters excellent, and which ſcarce ever corrupt on the Sea. The Land as fruitful as any in *America*, yielding *Brazile-wood*, *Saffron*, *Cotton*, *Red-dye*, *Lake*, or Roſe colour, *Balm*, *Tobacco*, *Pepper*; and sometimes *Ambergreaſe* is gathered on its Coaſt. The Land is found proper for *Sugar*, and if it were tilled, would produce *Grains*; some ſay, it hath Mines of *Jaſper*, and white and red *Chryſtal*, which for hardneſs ſurpaſſes the *Diamonds* of *Alenzon*: It is well watered with freſh Rivers, and pleaſant Streams, well cloathed with *Woods*, in which are ſtore of *Fowl*.

Its Inhabitants, and Apparel.

The people are ſtrong of body, live in good health, commonly dying with age; the women being fruitful till eighty years of age, both Sexes go naked until they

they are married, and then their apparel is only from the Waſt to the Knees, which is *Manufactures* of *Cotton*, or *Feather-works*, in which they are very ingenious.

The Country or the Iſle of the *Tapouies*.

The *Tapouy Tapere*, that is, the Country of the *Tapouies*, is another Iſle, Eaſt of *Maragnan*; at Full-ſea it is an Iſle; on the Ebb only, Sands ſeparate it from the Continent. The ſoil is yet better than that of *Maranhan*, it hath but fifteen Villages, the chief bearing the name of the Country; they are greater and better peopled than those of *Maranhan*.

The Country and City of *Comma*.

Weſt of *Tapouy Tapere*, and on the firm Land, *Comma*, a City, River, and Country of the ſame name, is of no ſmall value; its fifteen or ſixteen Villages are as well peopled as those of *Tapouy Tapere*. Between *Comma*, and *Cayetta*, which approaches *Para*, are divers people deſcending from the *Toupinambous*, as those of *Maranhan*, and *Comma*, deſcend from the *Tapouyes*.

The *French* were likewiſe divers times poſſeſſed of the Iſle of *Maranhan*. *Ribaut* was here in 1594. *Ravardiere* in 1612. This laſt choſe a moſt commodious place in the Iſland, and built the Fort of St. *Lewis*; the *Portugals* drove them out in 1614, and built new Forts, St. *Jago*, and *Neuſtra Sennora*. Among the Rivers that fall into the Gulph of *Maranhan*, *Miari* is the greateſt, then *Taboucourou*.

The Capitany of *Para*, with its Commodities.

The *Capitany* of *PARA* hath a ſquare Fort, ſeated on a Rock, raiſed four or five fadom from the neighbouring ground, and well walled, except towards the River; it hath four or five hundred *Portugals*, who gather in the Country *Tobacco*, *Cotton*, and *Sugar*. This *Capitany* holds beyond the Mouth of the *Amazone*, *Corrupa*, and *Eſtiero*, and among the Mouths of that River *Cogemine*.

Of a temperate Air.

Brazile hath an Air ſweet, and temperate, though under the *Torrid Zone*; the daies and nights being almoſt equal; the freſhneſs of the *Sea*, *Rivers*, and ordinary *Dews* contributing much to its wholſomneſs. They lie very ſubject to *Storms*, and *Thunders*; and if it lighten in the evening, it is without *Thunder*; if it *Thunder*, without *Flaſhes*. That which likewiſe proves the goodneſs of the Air, is, that their *Serpents*, *Snakes*, *Toads*, &c. are not venemous; but often ſerve for food to the Inhabitants: yet the ſoil is more proper for the production of *Fruits*, *Paſtures*, and *Pulſe*, than the *Grains*, or *Vines* of *Europe*. They carry them *Wine*, and *Flowr*, *Corn* being ſubject to ſpoil on the Sea. The *Natives* uſe *Rice* and *Manjoche* to make their Bread. They have likewiſe quantity of *Pulſe*, Trees which bear excellent *Fruits*, *Herbs*, Four-footed-*Beaſts*, *Birds*, and *Fiſh* in great abundance, many of which are not known to us; many ſorts of *Palm-trees*, which yield them great Commodities: they have some Mines of *Gold*, but more of *Silver*; but the riches of *Brazile* is drawn from the *Sugars*, and the *Brazile-wood*, which comes from their *Araboutan*, a mighty Tree, which bears no Fruit. They have abundance of *Parroquetos*; among their *Monkeys*, they have black ones, and of divers colours, the moſt part very pleaſant. The skin of the *Tapirouſſou*, curried, becomes ſo hard, that it makes Bucklers, not to be pierced by the ſtrongeſt ſhot Arrow.

Serpents, Toads, &c. not venemous here.

Its fertility and Commodities.

The Inhabitants of *Brazile*, and what they are addicted unto; their Cuſtoms, &c. Their Habit.

The *Brazilians* are of a mean ſtature, groſs headed, large ſhouldred, of a reddiſh colour, their skins tawny; they live commonly to a hundred and fifty years, and free from diſeaſes, caring for nothing but War and Vengeance. They wander moſt part of their time in *Hunting*, *Fiſhing*, and *Feaſting*; in which *Manjoche* furniſhes them with *Bread*; *Cumin-ſeed*, with *Drink*; and the *Fleſh* of *Beaſts*, or of their Enemies cut in gobbets, and some *Fiſh*, are their moſt excellent meats. The men are very cruel, forgetful of courteſies received, and mindful of injuries. The Women are very laſcivious, they are delivered with little or no pain, and immediately go about their affairs, and not obſerving the cuſtom of a Months lying in, as is uſed among us. They let their *hair* grow long, which ordinarily hangeth over their *ſhoulders*; both Sexes go naked, eſpecially, till Married: They are eſteemed excellent *Swimmers*; and *divers*, being able to ſtay an hour together under water. They *paint* themſelves with divers colours, all over the body, on which they leave

no

no hair, not so much as on their *Eye-lids*, but only a Crown about their *Head*; and fasten a Bone, which is well polished, and some little Stone, which seemed amongst them, in their upper *Lip*, and *Cheeks*. Others cut their skin in *Figures*, and mixing a certain tincture it never comes out. They make *Bonnets*, *Frontlets*, *Ruffes*, *Bands*, *Cloaks*, *Girdles*, *Garters*, and *Bracelets*, with *Feathers* of divers colours, which they work, and mix the colours together very excellently. The *Brazilians* which have stayed among the *Portugals*, are, for the most part, become *Christians*; the others wander without *Religion*.

Some knowledge of the Sun, Moon, and Stars.

There is a great diversity of Tongues among them; insomuch, that *Jarric* assures us, that in his time he observed sixty different ones; and though they have no *Sciences*, yet have they some knowledge of the course of the *Sun*, *Moon*, and *Stars*, giving them divers names, and calling the *Eclipses* nights of the *Sun* and *Moon*.

The riches of *Brazile*.

All the Wood of *Brazile* belongs unto the King of *Portugal*, private persons not being permitted to trade in it. Their riches come from *Whale-Oil*, *Confects*, *Conserves*, *Tobacco*, *Silver*, *Hides*, and other *Commodities*; but principally from *Sugar*, no Country in the World exporting so much as *Brazile* doth. The Isle *Madera* hath but ten *Sugar Engines*, the Isle of St. *Thomas* possibly less; but *Brazile* 4 or 500.

The names of *Mestiz*, *Mulates*, *Cariboco*, *Criolo*, *&c.* Explained.

As for the names of *Mestiz*, and *Mulates*, which divers times have been met with; it is to be observed, that the *Portugals* being long since here established, and having from time to time caused to be transported a great many *Negroes*, as well Men as Women to serve them; This mixture of divers Nations, and divers colours, hath made them to distinguish their Children, and to call those who came from Father and Mother of the *Europeans*, *Mozombo*; those who came from an *European* and a *Brazilian*, *Mestiz*, or *Mamelucco*; those from an *European* and a *Negroess*, *Muiates*; those from a *Brazilian* and a *Negroess*, *Cariboco*; those from the Father and Mother of *Æthiopians*, *Criolo*. Moreover, it hath been known that an *Æthiopian woman* whose Husband was likewise an *Æthiopian*, hath brought forth two Children, the one black, and the other white; and a *Brazilian Woman*, whose Husband was likewise a *Brazilian*, to bring forth two, the one white, and the other black: and oft-times blacks have whites, and whites blacks; and there are to be seen white *Æthiopians*, that is to say, in all the features of their face, and in their hair, all the proportions of an *Æthiopian*, but with skin and hair white.

Before *Brazile* lyeth a train of low Rocks, but of a small breadth; but which continue almost all along the Coast, leaving but certain overtures by which the Rivers discharge themselves into the Sea. *Ships* that go or return from *Brazile*, pass necessarily by these overtures, or openings, which oft-times proves very dangerous.

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PARAGUAY or Rio de la Plata.

THE Province of *PARAGUAY*, or *Rio de la Plata*, (other then the Province *de la Plata* in *Peru*) is on the River which those of the Country call *Paraguay*, the *Spaniards Rio de la Plata*, from whence it takes its name. We may comprehend under the name of *Paraguay*, or *Rio de la Plata*, all the neighbouring Provinces, and those which are on the Rivers falling into the *Paraguay*; and consider them in three, or in seven parts: To wit, in *Paraguay* or *Rio de la Plata*, which may make the higher, and lower part of that which is upon the River; *Inta*, *Ceaco* and *Tucuman*, which are on the Rivers, which descend on the right hand, and into *Parana*, *Guayr* and *Uraig*, which are on the Rivers which descend on the left hand: These are towards *Brazile*, and the *Mer del Nort*; the other two towards *Peru* and *Chili*, and the two first in the middle.

The River of *Paraguay*, or *de la Plata*, hath its springs in the Lake of *Xarajes* on the confines of *Peru* and *Brazile*; and descending from north to South, turns in the end to South-East, receives a great many fair and large Rivers, among others, *Patomayo*, *Vermejo*, or *Salado*, and *la Carzarane* on one side, *Guaxarape*, *Parana*, and *Uraig* on the other. The River of *Paraguay* described.

The *Paraguay* falling into the Sea makes a *Gulf* of fifty and odd Leagues wide, between the Capes of St. *Mary* and St. *Anthony*; and an hundred and fifty Leagues within Land is ten or twelve, and descending farther fifteen, twenty or five and twenty Leagues broad; but of so little depth, and so cumbred with Rocks and Banks, that what with them, and the sudden storms which often rise from the South, sailing up it proves very dangerous.

The Province of *Paraguay* described.

The particular Province of *Paraguay*, in the highest part of the River is little known, nor have the *Spaniards* here any Colonies, yet it bears its name common with the River, and communicates it to all the neighbouring quarters. The People are not so barbarous as in *Brazile*; some addicting themselves to *Husbandry*, in which the men till and sow the ground, and the Women reap and gather in Harvest; others know how to make *Stuffs*, *Vestments*, spin *Cotton*, &c.

Its People.

The Province *de la Plata* with its Colonies described.

Below *Paraguay* is the *Province de la Plata*, where the *Spaniards* have some Colonies; *viz.* 1. The *Assumption* being the chief place in this Countrey, is well built, and very well frequented, neighboured by a great Lake, in the midst of which is a great Rock, which exalteth its head about one hundred fathom above the water; this Town is said to be inhabited by three sorts of people: *viz.* 1 By natural *Spaniards* who are Masters of it, to the number of about four hundred families. 2. *Mulatoes*, being those that are born of *Spaniards* and *Negro's*, of which there are said to be several thousands; and lastly, by *Mestizo's*, which are such as are begotten by the *Spaniards* upon the *Natives*, and these are not in such great number: The next Town of note is *Buenos Ayres*, seated on the ascent of a small Hill, on the Southern Bank of the River *de la Plata*, said to contain about two hundred families of *Spaniards*. It is encompassed with a Mud-Wall, but its chiefest strength is in its Castle, which is but small neither over-well provided with *Ordnance* and *Ammunition*; the other Towns are, *Las Siette Corrientes*, St. *Fe* and St. *Spiritu*, or *Torre di Gabboto*; the two last, and *Buenos Ayres*, are on the right side; the *Assumption*, and *Las Corrientes*, on the left, and this two hundred and fifty, or three hundred Leagues from the Sea; *Buenos Ayres* little less than an hundred; St. *Fe* little more; the *Assumption* alone is on the *Paraguay*, *Las Siette Corrientes* where the *Parana*, &c. falls into the *Paraguay*.

The signification of *Paraguay*, & *de la Plata*.

This name of *Paraguay* is given by the Natives of the Country, and signifieth a River of *Feathers*, either because there are here found great quantities of *Birds*, whose *Feathers* are various and of divers colours; or because of the Country, dress and adorn themselves with those *Feathers*. The *de la Plata* hath been given by the *Spaniards*, and signifieth *Silver*; because the first that came to them from *Peru*, came down this River.

Chaco described with its several Inhabitants.

CHACO hath its soil fat, fruitful, and enterlaced with many Rivers. It is inhabited by divers Nations, whose *Idioms* are very different. The *Tobares* have about fifty thousand souls. The *Mathaguaics's* thirty thousand, but not so valiant, as the *Chiriguanes*, a Nation much esteemed, and which will not suffer the *Spaniards* to inhabit amongst them; they are in continual War with the *Mathaguaics's*, making *Slaves* of as many as they can catch, which made these call the *Spaniards* to their aid. The *Mocoxios* and *Zipatalagars* have no fewer people then the *Tobares*, and all so valiant in War, that the *Chiriguanes* dare not assault them. There is likewise another Nation, whose Language, as they say, scarce yields to the *Latine*; but the beauty of the *Orechons*, is in the greatness of their *Ears*. The most part of these people are well-made, very tall, most of them being about six foot high, they are of an airy and lively spirit.

Tucuman bounded, and described.

TUCUMAN is very large, being no less then three hundred Leagues long and broad; yet it touches not the Sea on any side; *la Plata* bounds it on the East, *Chili* on the West, *Peru* and *Chaco* on the North, and the *Magellanick Land* on the South. The Air and Soil should be excellent; this Country disingaging it self from the *Torrid Zone*, and advancing towards the middle of the *Temperate Zone*; and almost all the Rivers having their courses towards the East, which brings some refreshment. And moreover they have but two seasons in the year, each of six months: the *Summer* from about the twentieth of *March*, unto the twentieth of *September*, and the *Winter*, from *September* to *March*.

The *Tucumans* famous.

Among the People of these quarters, the *Tucumans* are the most famous, since they have given their name to the Province; then the *Zuries*, *Diaguites*, &c. The *Castilians* have established here divers Colonies, that the Province *de la Plata* might have communication with those of *Peru* and *Chili*. St. *Jago del Estero* formerly *Varco*, is in the mid-way between *Buenos Ayres* and *Potossi*; two hundred and fifty Leagues from this, and little less from the other. This place is honoured with the seat of the *Governour* of the *Province*, as also with a *Bishops See*, and divers other Officers of the King. The Land is furnished with *Wool*, *Cotton*, *Wood*, with which they make and dye their *Manufactures*, *Cochenelle*, &c. which they carry to the neareſt *Capitanies* of *Brazile*, making great profit by them.

St. *Jago del Estero*.

Its Commodities.

Several places of note in the way to *Peru*, described, with their Commodities, & fertility of the Country.

After St. *Jago del Estero*; there is likewise on the way to *Peru*, 1. St. *Michael de Tucuman*, seated at the foot of a rocky Mountain, but near a fertile Soil, both for *Corn* and *Pasturage*. 2. *Nuestra Sennora de Talavera*, scituate on the River *Salado*, in a fruitful Soil, abounding plentifully in *Cotton*, of which the Inhabitants make several *Manufactures*, in which they are so industrious, that they have gained by their Trade (to the Mines of *Potossi* a hundred and forty Leagues distant, and other places,) great riches. 3. *Las Juntas*. 4. St. *Salvador*. 5. *Salta*. 6. *Corduba*, on another side, and there where two great Waies meet, the one of *Buenos Ayres*, to *Potossi* by St. *Jago del Estero*, and the other of *Sancto Fe* and *Spiritu Sancto* to St. *Jago del Estremadura* in *Chili* by St. *Luyz*, which makes this place of some consideration: Besides that the Air is temperate, and the Soil fruitful and pleasant, and which yields *Grains* and *Fruits*, it is well watred with fresh streams, in which are good *Fish*. In their *Woods* they have *Fowls*, much *Venison* and other *Beasts*; they have *Wine*, *Salt*, and in their Mountains appearance of some Mines of *Silver*. The Colony is of three hundred, others say six hundred *Spaniards*. Their principal trade is on *Peru* and *Chili* side. The Natives are much civilized both in habit and manners, imitating the *Spaniards*, from whom they are willing to receive instructions.

Its Inhabitants.

The

The provinces of *Parana*, *Guayr* & *Vraig*.

The Provinces of *PARANA*, *GUATR* and *VRAIG* pass under the name of *Paraguay*, in the relations which the *Fathers Jesuits* give. It [illegible] that these *Fathers* having long observed that there was an innumerable company of Souls, which might be converted to Christianity; they cast themselves among these *Barbarians*, learned their tongue, drew them from the *Woods*, *Mountains*, and hidden *Caves*; assembled them in divers habitations, and by this means lead them to a sociable life, taught them first *Tillage*, and the most necessary *Arts* and *Manufactures*; then to read and write, to musick, singing and dancing, but above all instructed them in the Christian Religion, and Piety.

Several good orders observed by them.

These *Habitations* are composed of near a thousand *Families*; and each *Family* besides the *Father*, *Mother*, and the *Children*; receive often some aged person, not able to work, or some *Orphan*. So soon as a *Habitation* is established, the Fathers introduce the Government they are to follow; give them *Magistrates* and *Officers*, chosen among the most capable of their Body, declare to them the polity and rules they are to observe, take care that the fields assigned to each family be tilled and sowed in due time, that their flocks be well kept; and if there happen any contest among them, what the *Fathers* ordain stands as a sentence without revocation.

Of these *Habitations*; *Parana* hath six, St. *Ignatius* on the River of *Tibiquari*, *Itapoa* or the *Incarnation*, and the *Holy Sacrament* on the River of *Parana*, *N. D. de Iguazu* on that of *Iguazu*, *Acaraig* or *la Nativita de N. D.* likewise on the *Parana*. The Air in all these *Habitations* is good, the Soil fertile, they have too much *Wood*, little *Pasturage*; and near *Iguazu* little *Fish*, by reason of the *Cataract*.

The province of *Guayr*, with its Colonies & Habitations described.

The Province of *Guayr* is under the *Tropick* of *Capricorn*, advancing it self unto *Brazile*. There hath been here, for a good continuance of time two or three Colonies of *Castilians*; *Cividad Real*, or *Ontiveros*, and sometimes *Guayr*, after the name of the Province. *Villarica*, and St. *Paul*, which some esteem in *Brazile*. The habitations for those of the Country, are *Nuestra Sennora de Loretto*, and St. *Ignatius* on the *Parana*; St. *Francis Xavier* & *Incarnation*, and St. *Joseph* on the *Tibagiva*; the seven *Arch-Angels*, and St. *Paul* in the Land of great *Tajoba*, towards *Brazile*.

The River *Parana*.

Below *Cividad Real*, there where is the separation of the two Provinces of *Parama* and *Guayr*, the River *Parana* makes a *Cataract*, as remarkable as any in the World. This River precipitating it self from a very high Rock, finds it self likewise engaged among very high Rocks for the space of fifteen or sixteen Leagues, where with a great declension it strikes against some, traverses others; divides its waters into many Branches, re-assembles them; and after having been so long in foam and froth, disingaged from these Rocks, it repasses; but in every hour of the day once only is heard, at the bottom of the River, a certain Lowing, which raiseth up the waters, but which endures but for a moment, and the River retakes its ordinary course, which is Navigable above and below the *Cataract*.

The province of *Urvaig* with its chief places described.

The Province of *Urvaig* is on the Sea, and between *Brazile*, and the Mouth of the *Paraguay*; it takes its name from the River of *Urvaig*, that is, of *Snails*, by reason of the prodigious quantity here found. Its habitations are, *La Conception*, there where the *Urvaig* falls into the *Paraguay*; St. *Nicholas*, on the River *Piration*; St. *Francis Xavier*, up within Land; and likewise on the *Urvaig*; *Ibicuit*, or the *Visitation*, on the *Paraguay*, and almost directly opposite to *Buenos Ayres*, on the other side.

But there hath been no relation of these Parts since those of 1626, and 1627, which were Printed in 1636 in *Antwerp*, and in 1637 in *France*. If these people have since inclined themselves to Christianity, as those Relations say they had begun to do, no doubt, but they are by this time, all or the greatest part, Christians.

The Magellanick Land, and Island.

The *Magellanick-Land* bounded.

SOuth of *Chili*, *Tucaman*, and *Rio de la Plata*, lies a great Region, and a great many of Isles, which we pass under the name of the *MAGELLANICKS*. They make together the last, and most Southern part of *America Meridionalis*: washed on the East by the *Mer del Nort*, on the West by the *Mer del Sud*, or the *Pacifique-Sea*; on the South by the *Magellanick-Sea*, which may in general be extended over all the Coasts of these *Magellanick-Lands* and *Islands*.

The *Streight* of *Magellan* first discovered by *Magellan* the *Portugal*.

The streight of *Magellan* only, formerly, rendred all these Quarters famous; because that the People of *Europe*, and particularly the *Castilians*, seeking a passage other then that of the *Cape* of *Good-Hope*, to go to the *Moluccoes*, and *East-Indies*; *Magellan*, a *Portugal Gentleman*, but in the name and service of the King of *Castile* for some discontent he had received in the payment of his wages in *Portugal*, was the first that found this Streight at the extremity of *America Meridionalis*; and who passing from *Mer del Nort*, unto that *Del Sud*, between the 21 of *October*, and the 27, or 28 of *November*; in the year 1520, gave means, not only to the *Castilians*, to pretend the discovery of the *Molucco's*, by the West, against the *Portugals*, who boasted to have first discovered them by the East: but likewise shewed a way to make the whole circuit of the *Terrestrial Globe*, which certainly had never before been done.

The two openings of our Streight, as well towards us, and the *Mer del Nort*, as on the other side, and towards the *Mer del Sud*, are between the 52, and 53 *Degrees* of *Latitude*, the middle descending unto the 54. And the two *Capes* of the first opening, are that of the *Virgins*, on the right hand, and on the *Continent*; and that of St. *Severin*, or of St. *Esprit*, on the left, and in the *Magellanick Isles*, or *Terra del Fogo*. The two *Capes* which end the other opening, are *Cape Victory*, on the right hand, and *Cape Desired*, on the left.

The length & breadth of this Streight.

The length of this Streight is near two hundred Leagues; Its breadth only two, three, six, ten Leagues, and sometimes more; incommodious for the most part, being subject to *Whirl-Pools*. The Waves of the *Mer del Sud* predominate for fifty and odd Leagues, the rest is beaten on by those of the *Mer del Nort*; and it is observed, that so long as the *Mer del Sud* predominates, the Streight is lockt between very high Mountains and Rocks, always covered with Snow, and which seem to touch on the other; which makes the approach difficult on this side, and withal, the Sea is exceeding deep. The bottom of that which is beaten by the *Mer del Nort*, is easily found, and the *Fields* and *Valleys*, according to the Season, are very pleasant, both on the one and the other side. And moreover, here the streight much enlarges it self, and hath store of commodious *Ports* and *Roads*, not fast distant from one another; where the waters likewise are good, and the *Wood* which is found in the Mountains, above the *Coast*, hath something of *Cinamon*, and being put in the fire, renders an agreeable *Odour*.

So soon as the discovery of this Streight was known in *Spain*, the *Castilians* had a design to make themselves Masters of it; with an intent to hinder all other Nations from passing. In 1523 *Dom. Gutieres Carvajal*, *Bishop* of *Plaisance*, sent in the name of *Charles* the fifth, four Ships; to make it more particularly; but this Voyage proved very unfortunate, for three of the Ships perished in the Streight, and the fourth retired (with no small hurt) to *Lima*. In 1526 *Garsia de Loyosa* was likewise here for the same intent, which proved also fatal; for the *Admiral* coming out of the Streight was lost, as also some at the *Molucco's*. In 1535 one *Simon de Alcazova* entred it; but the mutiny which was among his people was the cause of his loss and ill success. *Dom. Gutiers*

Gutiers Carvajal, *Bishop of Plaisance*, sent other three Vessels, in 1539, of which the *Admiral* was lost, one returned back, and the third passed on. Some others there were which went (all of which were *Castilians*) some by the Coast of *Chili*, others by the Coast of *Peru*; but none could ever find a way to seize this Streight, whereby to hinder a passage to others.

Sir *Francis Drake* in this Streight.

For in 1575 Sir *Francis Drake*, happily passed this Streight, came into the *Mer del Sud*, pillaged and burned along the Coast of *Chili*, and *Peru*, quantity of *Spanish* Vessels, and making a very rich booty, he returned into *England*.

This course of the *English* very much allarm'd *Peru*, and was the cause that the *Vice-Roy* sent *Dom. Piedro Sarmiento*, to take full knowledge, and make report in *Spain* of all the *Coasts*, *Harbours*, *Anchorages*, and particularly of places where *Forts* might be built, and *Colonies* established in this Streight. This report made in *Spain*, *Dom. Diego de Valdes* was sent with twenty three Vessels, and twenty five hundred men. But this voyage was likewise unhappy; for seven or eight Ships, with about seven or eight hundred men, were lost almost in sight of *Spain*; also some others of his Ships, with about three or four hundred men, likewise perished during the Voyage; and *Valdes* returned into *Spain*, with seven or eight of his Ships. *Sarmento* with four remaining was at this Streight, built *Nombre de Jesus* at the beginning of the Streight, and left there a hundred and fifty men, and began farther in the *Cividad del Rey Philippe*: but the want of many things, and the cold, too harsh for the *Spaniards*, made the last work cease, and the men be brought back to the first Colony. *Pedro Sermiento* returning into *Spain*, fell into the hands of the *English*, near the Coast of *Brazil*; and on the other side, Famine, Miseries, and the Cruelties of the Inhabitants of the Streight, soon destroyed the Colony he had left.

After *Drake*, many other *English* and *Hollanders* passed at divers times, and in divers years. *Spilbergen* in 1615. more happily then the rest, having taken his time in *January* and *February*, which is the Summer of these Quarters, the Sun returning from *Capricorne*.

The Streight *dele Maire* discovered by *Isaac le Maire*, a *Hollander*.

But in 1617 a hundred years after *Magellan*, *Isaac le Maire*, a *Hollander*, having discovered another *Streight* incomparably more easie to pass then that of *Magellan*, this only is now made use of, and called the *Streight Dele Maire*: It is between the 55 and 55½ degrees of *Septentrional Latitude*. It hath throughout 10 or 12 Leagues of length and breadth; and so soon as it is passed, there is found a very great *Sea*, there where we have formerly believed to be a *Land* so great, that some would make it a third *Continent* under the name of *Terra Australis* or *Terra Incognita*, and *Magellanica*.

The *Inhabitants* of the *Streight* of *Magellan*, *Maire*, and the *Magellanick Lands*, are very barbarous, having very sharp and dangerous *Teeth*; they go almost naked, though in a Countrey very cold; they have neither *Religion* nor *Policy*; they are born white, but paint some part of their body red, and others black: And this Painting is a Band drawn straight from Head to Foot, or else cross their Body, or slooping; the rest is in its natural colour, or else sometimes varied with divers colours. They garnish their *Arrows* and *Javelins* with *Fish-bones*, or with *Stones* very sharp; of which they make their *Knives*; they use likewise *Clubs* and *Slings*.

The *Inhabitants* of *Magellan*, *Maire*, and the *Magellanick Land*.

The *Patagons* a sort of people.

Amongst these People are the *Patagons*, a particular Nation in the *Continent*, which some call the *Race* of *Toremen*. If report be true, they are the greatest men, known at present in any part of the World. They are said to be no less then ten foot high, and we are assured, that the greatest men that were with *Magellan*, or with the *English* and *Hollanders*, that passed this *Streight*, reached but to their Girdle.

But

But it is time to leave *America*. The first expen[illegible] made to go thither, was not of above 15 or 16000 Duckats, which were advanced by *Lewis* [illegible]*nge*, Secretary of State, and not taken out of the Treasuries of the Kings [illegible]*e* and *Arragon*, who then protested they had not so much money to expe[illegible] yet notwithstanding this little hath returned them infinite riches. *Christopher Columbus* seised on *Hispaniola*, and the Neighbouring Isles a little after 1492. *Americus Vesputius* of *Brazil* in 1497. *Ferdinand Cortes* took *Mexico* in 1519. *Pizzarre*, *Peru* in 1529. So others have seised of divers parts of *America*, and still of those which are the best; and have brought thence so much *Gold*, *Silver* and *Riches*, that they have filled almost all *Europe*, and made those *Estates*, *Lordships* and *Commodities* on this side, which before were valued but at Twenty pence, Twenty shillings, or Twenty thousand pounds worth, now a hundred times as much.

The *Spaniards* have received great losses from the *English* and *Dutch*.

But we must confess, that these discoveries, and these conquests of new Lands hath cost *Spain* store of men, not so much in the War as on the Sea. In 1590. a hundred *Spanish* Ships laden with very great riches to return to *Europe*, passing in company near *Florida*, a tempest surprized them, and cast them all away, save one, whom *Linscot* reports to have seen in *Tercera*; and this Author assures us, that at the same time divers other Tempests, or divers *English Rovers* took away or sunk another hundred of *Spanish Ships*; so that of 220 parted the year before from *New Spain*, St. *Domingo*, *Havana*, *Cape Verde*, *Brazil*, *Guiney* and other places, not above 14 or 15 escaped shipwrack or the *English Rovers*.

Likewise after, and at other times, sometimes the *English*, sometimes the *Hollanders* have not only taken abundance of *Spanish Vessels* on the *Sea*, but likewise divers places on *Land*, and sometimes whole *Provinces* and *Islands*. The *Hollanders* held not long since a good part of *Brazil*; the *English* hold at present *Barbadoes*, *Jamaica*, and some other places in the *Isles* and *Lands* about it. And all those *Isles* which are on this side *Hispaniola*, are in the hands of the *English*, *French* and *Hollanders*, who likewise establish divers *Colonies* on the Coast of *Guiana*; which if they subsist, those *Isles* are not already more troublesome Thorns to *Mexico* and *Terra-Firma*, then these *Colonies* in *Guiana* will be to *Terra-Firma*, *Peru* and *Brazil*.

The Trade of *America* in general.

To give a small touch of the *Traffick* of this *New World*, it is observed to give imployment to many Ships of great burthen, and that of several Nations, as well *Europeans*, as others, by which they have gained much riches; in which, *England*, *Spain*, *France*, *Portugal*, *Holland* &c. have been large sharers. To sum up the rich staple commodities that it produceth, as also what Commodities they receive in exchange, will not be unnecessary.

Its Fruits and Commodities.

First then, Its Earth *yieldeth Grains*, excellent *Fruits*, *Plants*, *Sugar*, *Indico*, *Tobacco*, *Ginger*, *Long-Pepper* and other *Spices*, Several Medicinal *Drugs*, *Cotton*, of which, as also of the *Feathers* of their *Birds*, they make excellent and curious *Manufactures*. In the bowels of the *Earth* lie hid, in abundance of *Mines*, *Gold*, *Silver*, *Iron*, *Lead*, *Tin* and *Copper*; there is also plenty of *Quick-silver*, *Amber*, *Precious Stones*, *Pearls*, *Bezoar*, *Amber-Greece*, *Gum Arabick*, and several *Precious Gums*, *Cochenelle*, *Saffron*, *Chrystal*, excellent *Balsom*, *Rozin*, *Salt*, *Honey*, *Wax*, *Rich Furs*, *Ox-Hides*, *Tallow*, *Whale-Oyl*, *Dried Fish*, *Pitch*, *Tar*, *Jallop*, *Salsaperilla*, *Gayac*, *Turbith*. Several excellent *Woods*, as *Campeche*, *Brazil*, *Lignum Vitæ*, *Green Ebony*, *Cedar*, *Cypress*, *Firrs*, and excellent *Wood* for building of *Ships*.

Commodities sent them in exchange.

For these and other such rich commodities they take in exchange, *Beads*, *Necklates*, *Bracelets*, and the like Toys; as also *Looking-Glasses*, *Ribbons*, *Needles*, *Pins*, and all sorts of *Haberdashery Ware*; also *Knives*, *Hatchets*, *Saws*, *Nails*, *Hammers*, and other *Instruments* made of *Iron*; with several other of the like cheap Commodities.

We

We have thus comprised all that seemed most necessary concerning *America*: true it is, whole Volums might be made only touching the Nature and Propriety [illegible] *Grains*, *Herbs*, *Plants*, *Fruits*, *Fowl*, *Beasts* and *Fish*, which are all diffe[illegible]om ours; yet those which have been carried from hence, have thrived and multiplied exceeding well, either in one place or another: But of all our *Beasts*, nothing so much astonished them as our *Horses*; and it was near a hundred years in *Peru*, and other parts of *America*, before those *People* would be perswaded to mo[illegible]t them.

FINIS.